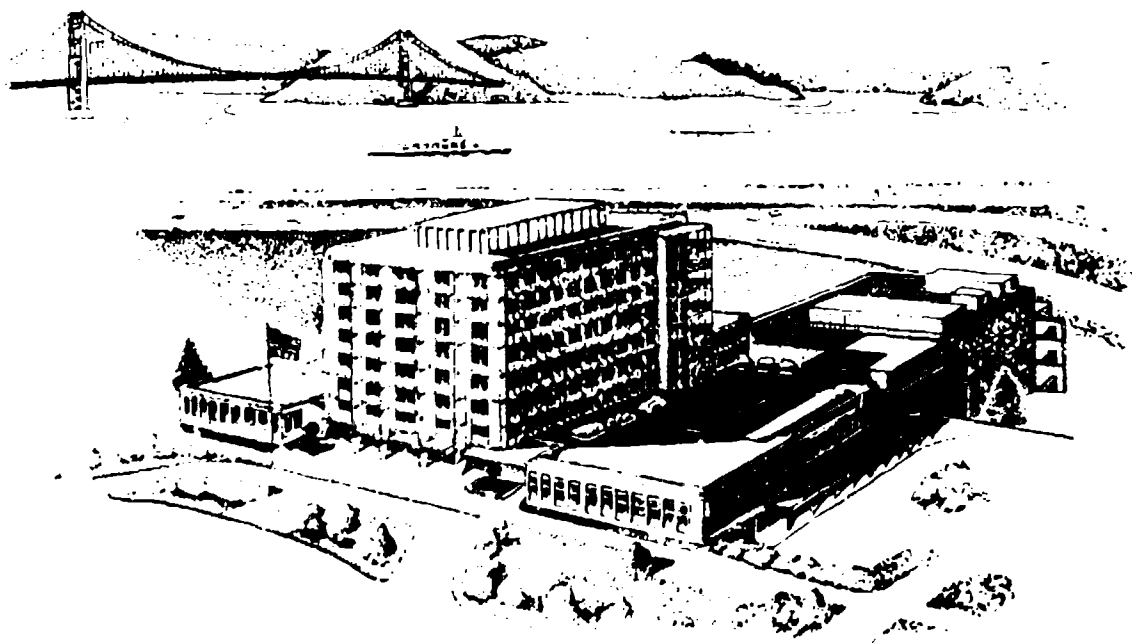




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MILITARY APPLICATIONS OF CLINICAL NEUROPSYCHOLOGY AND HEALTH PSYCHOLOGY

AD-A184 008



9-13 March 1987

Volume I

Letterman Army Medical Center
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**PROCEEDINGS OF THE 1987 AMEDD
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MILITARY APPLICATIONS OF NEUROPSYCHOLOGY
AND HEALTH PSYCHOLOGY**

**PSYCHOLOGY SERVICE
LETTERMAN ARMY MEDICAL CENTER
PRESIDIO OF SAN FRANCISCO, CALIFORNIA**

VOLUME I

9-13 March 1987

Letterman Army Medical Center
1987 AMEDD Clinical Psychology Short Course
Military Applications of Clinical
Neuropsychology and Health Psychology
9-13 March, 1987

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Proceedings: 1987 AMEDD Clinical Psychology Short Course - Military Applications of Clinical Neuropsychology and Health Psychology		5. TYPE OF REPORT & PERIOD COVERED Final Report - March 1987
7. AUTHOR(s) CPT Robert A. Byrne, M.Ed. (Editor)		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Psychology Service Letterman Army Medical Center Presidio of San Francisco, CA 94129-6700		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS Psychology Service Letterman Army Medical Center Presidio of San Francisco, CA 94129-6700		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE March 1987
		13. NUMBER OF PAGES 220
		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; unlimited distribution		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) clinical psychology children's intelligence neuropsychology suicide prevention health psychology consultation and liason combat psychiatry parent-child rating scales relaxation training biofeedback/stress management		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The Proceedings of Volume I document the papers presented at the Poster Session of the 1987 AMEDD Clinical Psychology Short Course - Military Applications of Clinical Neuropsychology and Health Psychology. Papers representing other clinical areas and professional issues in the field of military psychology include combat psychiatry, stress and unit morale, suicide prevention, out-patient mental health services, and current issues and instruments in psychological assessment.		

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COURSE OBJECTIVES

The conference program was designed to accomplish the following three objectives:

1. To promote knowledge and understanding of the relationship between the brain and behavior and the evaluation of this relationship through neuropsychological assessment.
2. To provide basic skills training in a variety of areas of health psychology.
3. To provide a forum for continuing education, exchange of new ideas, and maintenance of high levels of professional competence for military psychologists.

VOLUME I

This volume of the Proceedings contains
the papers presented at the Poster Session
of the conference on Wednesday, 11 March
1987.

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NEUROPSYCHOLOGY

PAPERS



AD-P005 567

**The Intellectual Screening Scale of
the Personality Inventory for Children:
Dangers in the Application of Constricted Constructs**

**Stevan Lars Nielsen
Letterman Army Medical Center**

Abstract

The Intellectual Screening Scale (ISS) of the Personality Inventory for Children (PIC) is clinically useful in screening for intellectual deficit. However, when administered to a group of children referred for evaluation because of concerns about speech delay, the ISS was found to underestimate scores on psychometric tests of intelligence. The findings are consistent with conceptualizations of intelligence as multifactorial construct including, at least, verbal and nonverbal components. While these results may disqualify the ISS for use with nonverbal individuals, it likely remains a valid instrument for measuring a personality trait that could be called observed intelligent behavior of a vocally mediated nature. The findings seem to call for greater sophistication and caution in the scientific use and clinical application of labels and constructs about cognitive functions.

The Intellectual Screening Scale of the Personality Inventory for Children:

Dangers in the Application of Constricted Constructs

The Personality Inventory for Children (PIC), first described in 1958 (Wirt & Broen, 1958), became widely available with its commercial publication by Western Psychological Services (Wirt, Lachar, Klinedinst, & Seat, 1977). In the ten years following, it has received extensive attention, both positive and negative, among child psychologists (e.g. Achenbach, 1981; Lachar & Wirt, 1981; Wirt & Lachar, 1981).

Among the PIC's 37 scales, the Intellectual Screening Scale (ISS) has probably received the most positive attention and verifying support. The ISS score has consistently been found to provide a reliably strong prediction (or rather a negative prediction) of actual performance on during intelligence testing (Dollinger, Goh, & Cody, 1984; DeHorn, Lachar, & Charles, 1979). Scores on the ISS provide an indication of the need for psychometric testing of intellectual function. The ISS can be construed as a measure of a personality construct: intelligent behavior as rated by parent observers. As the ISS score increases, intelligent behavior observed by the parent has likely decreased.

My own experience has also demonstrated and confirmed the ISS's clinical usefulness. The ISS will often appropriately redirect efforts toward more detailed investigation of intellectual skills when history or other screening devices reveal few signs of intellectual or cognitive deficit.

A surprising instance of discordance between ISS score and measured intelligence led to the present study. PIC scores from a twelve-year-old referred for evaluation included an elevated ISS. Subsequent intellectual evaluation using the Revised edition of the Wechsler Intelligence Scale for Children yielded scores in the High Average to Superior range of intellectual functioning. The youngster, though referred for other problems, was also receiving speech therapy at the time of referral. His speech was characterized by odd inflections and severe lisping, though his language skills, both receptive and expressive, were normal for his age.

Examination of ISS and intelligence test scores among several other children where speech delay or dysfunction were present revealed a similar pattern, an elevated ISS in children with normal or above normal intelligence test scores. A systematic examination of ISS and intelligence test scores was begun to further investigate this finding.

Method

Subjects. Twenty-seven children in succession (6 females and 21 males) referred by their parents or pediatricians for evaluation of possible speech delay or dysfunction served as subjects. The children ranged in age from 37 to 99 months ($M = 53.9$ months). The children were 64% Caucasian, 29% Negro, 7% Hispanic. Speech delay or dysfunction was the presenting problem for all subjects, though additional concerns, chiefly aggressive behavior or excessive activity, were expressed for three children at time of intake.

Materials. Parents of the 27 children referred for speech difficulties were asked to complete the full (600 item) revised format of the PIC (Lachar, 1982). PICs from two parents were obtained for 19 children. Single PICs was obtained for the remaining 8 children who came either from single parent homes or for whom the father was unavailable because of duty commitments.

The Kaufman Assessment Battery for Children (KABC), the Leiter International Performance Scale--Arther Adaptation (Leiter) or both the KABC and Leiter were administered based on each child's age, understandability, and availability for follow-up assessment sessions. Testing with both instruments was the preferred situation, but some children who could not be understood well enough to allow for valid testing with verbal items were also too young for testing with only the nonverbal items of the KABC. Some children were unavailable for two testing sessions. When two tests were administered, the lowest score obtained using nonverbal items was selected as the criterion IQ score.

Procedure. Each parent or parents of the 27 successively referred children were informed, either by the author or by the speech pathologist, that evaluation of their child's intellectual development and personality style was being offered as part of a research project. The project was described as an investigation of the relationship between development of language, cognitive skills, and personality style. Parents were assured that participation was voluntary, that speech evaluation and eventual inclusion in speech therapy was independent of participation in the study, and that full disclosure and interpretation of results would follow testing. Every parent contacted agreed to participate.

Parents usually completed the PIC while the initial speech evaluation was taking place. Copies of the PIC questions and answer sheets were sent home for completion by parents who had not accompanied children to the evaluation. Parents were asked to complete the PIC independently. PICs were scored after intelligence testing was completed and the speech pathologists and psychologists examining the children were blind to each other's findings and to the PIC scores until after all evaluations were completed.

In most cases intellectual evaluation was completed at a subsequent session, though a few children were tested on the day of their initial speech evaluation. Parents were provided with a written report and a detailed explanation of our findings. Additional psychological assessment or treatment was offered when considered appropriate, and further speech evaluation or therapy was pursued at the recommendation of the consulting speech pathologists.

Results

The initial study of the relationship between ISS and intelligence test scores (described in the PIC manual: Wirt et al., 1977) provided the standard against which the relationship between the ISS and indicators of actual intelligence in speech delayed children was evaluated. In the standardization study, children were divided according to ISS and IQ standard deviation band widths: IQ score less than, within, or above one standard deviation below the mean and ISS scores less than one standard deviation above the mean, within one, two, or three standard deviations above the mean, and greater than three standard deviations above the mean (a 3 x 5 matrix of scores).

Due to the number and distribution of scores among children in this sample, the primary analysis reported here is a collapsed version of the original matrix: ISS scores below, at, or above one standard deviation above the mean among children with IQ scores within or above the normal range (IQ scores ≥ 84). This classification scheme includes 23 of the 27 children. The standard or expectation from the original standardization study, is that among children with normal or above normal intelligence about 42% should have ISS scores below 60 (less than one standard deviation above the mean), about 24% should obtain ISS scores between 59 and 70, and 34% should obtain ISS scores at or above 70 (greater than two standard deviations above the mean).

Tables 1 through 4 present the expected proportions and numbers, and the actual numbers of children with essentially normal IQ scores scoring within the specified ISS score ranges. Because scores were available from two parents in many cases, they are distributed, respectively, in a conservative or less conservative manner (by the lower or higher scoring of the two parents) and by mother's or father's scores. It can be seen in all four tables, including the most conservative, which considers only the parent providing the lowest ISS score, that speech delayed children with normal or above normal IQ scores are distributed with higher ISS scores than expected. Only three children are classified within one standard deviation of the mean in the most conservative table, and none are within this range in the less conservative table, where more than three quarters of the children scored more than two standard deviations above the mean on the ISS.

Table 1. From the Higher Scoring Parents' ISS:
Distribution of ISS Scores Among Children
with IQ Scores In or Above the Normal Range

ISS T-Scores	Expected Percent	Expected Number (N = 23)	Actual Number
> 69	34.2	7.85	18
60 - 69	24.4	5.61	5
< 60	41.5	9.54	0

$\chi^2 (2) = 22.71, p < .001$ (Observed vs. expected).

Table 2. From the Lower Scoring Parents' ISS:
Distribution of ISS Scores Among Children
with IQ Scores In or Above the Normal Range

ISS T-Scores	Expected Percent	Expected Number (N = 23)	Actual Number
> 69	34.2	7.85	10
60 - 69	24.4	5.61	10
< 60	41.5	9.54	3

$\chi^2 (2) = 8.5, p < .02$ (Observed vs. expected).

Table 3. From Fathers' ISS:
Distribution of ISS Scores Among Children
with IQ Scores In or Above the Normal Range

ISS T-Scores	Expected Percent	Expected Number (N = 20)	Actual Number
> 69	34.2	6.83	14
60 - 69	24.4	4.88	5
< 60	41.5	8.29	1

$\chi^2(2) = 13.95, p < .001$ (Observed vs. expected).

Table 4. From Mothers' ISS:
Distribution of ISS Scores Among Children
with IQ Scores In or Above the Normal Range

ISS T-Scores	Expected Percent	Expected Number (N = 22)	Actual Number
> 69	34.2	7.51	10
60 - 69	24.4	5.37	10
< 60	41.5	9.12	2

$\chi^2(2) = 10.39, p < .01$ (Observed vs. expected).

A striking extension of this finding is obtained from examining children with IQ scores greater than one standard deviation above the mean. All five of these children, with an average IQ score of 125, received an ISS score from at least one parent greater than two standard deviations above the mean ($M = 82$)!

Discussion

An initial personal reaction upon examining these findings was to disqualify the PIC ISS as invalid because of an unacceptably high false positive rate. Actually, the ISS probably retains considerable value as a clinical device except among children with speech difficulties. As long as a careful history of language development and close observation of speech skills are included in evaluation procedures, the ISS will probably retain value as a clinical screening instrument.

These findings are of interest as they relate to intelligence as a construct. Considering the careful development and standardization procedures employed in construction of the ISS, it is likely that it is a valid measure of a personality trait that might be called Observed Intelligent Behavior. The conclusion I draw from these findings is that it is a good measure of one kind of observed intelligence construct, a construct which includes a large component of intelligence as spoken language; it fails to adequately assess nonverbal intellectual behavior.

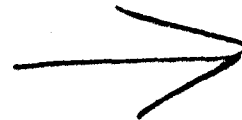
Sternberg (1985), in developing his triarchic theory of intelligence, attempted to assess expert and lay formulations of intelligence. Experts publishing scholarly articles in the area of intelligence and average citizens in train stations and shopping malls agreed in ranking verbal behavior as a prime indicator, probably the most important single indicator, of intelligence. The ISS was constructed in such a way (its standardization populations were such) that it agreed with experts and laymen alike for this one feature of intelligence. (This is easily understood if one considers the shift in meaning that has occurred for the term formerly used to describe the nonspeaking; what once meant only nonspeaking now means decidedly unintelligent, that is, dumb.) Perhaps it would be difficult to measure a personality trait of Observed Nonverbal or Observed Nonspeaking Intelligent Behavior, even though most would agree that nonverbal intelligence exists and is very important.

When rated along the personality dimension of observed verbal intelligence, speech dysfunctioning children would clearly receive a low score, though their nonverbal skills are as likely to be superior as delayed. Verbal skills themselves, excepting vocal expression, may also be normal or advanced. The findings of this study indicate a need for sophistication, breadth, and most of all caution in our thinking about and application of labels and constructs at the advanced level of test construction

and clinical use. Further investigations in the nature of observed trait scales like those of the PIC seem appropriate, and indeed should likely begin with closer examination of the PIC scales themselves.

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The Qualitative and Quantitative Aspects of the Tactual Performance Test

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Abstract

→ The Tactual Performance Test (TPT) is a novel, haptic, complex psychomotor test that yields qualitative and quantitative data. The TPT provides the following three of seven indices used for the Halstead-Reitan Impairment Index: total time for three trials; memory for block shape; and memory for block design.

Studies have shown that the TPT latency and location measures to be sensitive to a brain dysfunction resulting from a variety of causes. However, there is a lack of parametric data regarding block placement and qualitative information on problem solving approaches to the test. Therefore, the purpose of this study was to: (1) examine the sequence of block placement; (2) determine the relative frequency of recall of each block; and (3) obtain observations of problem solving behaviors of non-brain damaged and brain damaged subjects.

Introduction

The Tactual Performance Test (TPT) is a well known neuropsychological assessment procedure and is a major component of the Halstead-Reitan Test Battery. The test has been shown to be sensitive to general and lateralized brain dysfunction in a variety of brain diseases (Thompson and Parsons, 1985). The TPT has recently been criticized because of the time required to obtain limited data and the difficulty level of the test (Lezak, 1983). Russell (1985) has shown that the TPT 6 hole form board would be a comparable assessment tool in lieu of the TPT 10 hole form board.

As with all complex motor tests, many of the task analysis questions about the TPT remain to be examined. This study examined if whether there was a sequence in which the blocks were placed on the board or whether blocks were placed in a random manner. The recall of blocks was studied to determine if certain blocks were remembered more frequently than others. Finally, because problem solving methods to this complex task may provide information which would be useful in rehabilitation and in predicting expected problems in problem solving in every day activities, observations of TPT behavior were explored.

Method

Subjects

The subjects (See Table 1) in this study were: (1) 24 non-neurologic, non-psychiatric controls (active duty service members or their dependents), and (2) 23 neuropsychologically impaired patients with demonstrated central nervous system diseases or trauma.

Insert Table 1

Procedure

Two highly trained technicians tested all subjects with the Halstead-Reitan Adult Neuropsychological Test Battery plus allied procedures. The TPT was administered in the standard manner (Reitan, 1979) with the following minor modifications: (1) the eyes were covered with 4 x 4 bandages and then covered with an ACE bandage to insure no view of the equipment, (2) block presentation on the table was random on the first trial; block presentation on the second and third trials conformed to the rule that blocks that were adjacent on the board were never adjacent on the table, (3) the sequence of correct block placement was recorded, (4) individual block placement time was recorded, (5) extensive notes of subjects' behavior were recorded by the technicians; and (6) the blocks were numbered to facilitate recording (See figure 1).

Insert Figure 1

Results

The control and neurologic patients were found to be significantly different on Total Time, Dom Hand Time, N-Dom Hand Time, Both Hand Time and localization of blocks. Memory for blocks was not significant between the two groups. (See Table 2.)

Insert Table 2

Both groups showed similar learning curves across trials and within trials. (See Figure 2.)

Insert Figure 2

The frequency of serial placement of each block for each trial was examined. The diamond and square were found to be the most frequently placed last block in both groups for all three trials (See Figure 3.). Control, chi square (9, N = 24) = 22.98 $p < .01$, Neuro, chi square = 18.92 $p < .05$. (9, N = 23).

Insert Figure 3

The groups were not significantly different for total number of blocks remembered (t-test = 1.68, $p > .05$). The groups were combined and the frequency of recall for each block calculated (See Table 3.)

Insert Table 3.

The qualitative aspects of the subjects' behavior during the TPT were reviewed by an experienced neuropsychologist and a highly trained technician. Frequent behavioral observations were analyzed and condensed for differences and similarities within and across the two groups. (See Table 4.)

Insert Table 4

Discussion

The TPT was shown to be sensitive to brain dysfunction. The time measures were the most sensitive while the memory score was found to not differentiate the groups. The chronicity of the impaired patients might have contributed to the higher than expected memory scores.

Both groups showed very similar learning curves within trial, from dominant hand to non-dominant and, lastly, for both hands. The control subjects appeared to reach asymptote more rapidly than the impaired subjects. Therefore, motor slowness was a major component in the overall differences between groups, but the controls might have been using more efficient problem solving strategies.

The sequences in which blocks were correctly placed in the board were random with the exception of the final block placed in each trial. The diamond or square was most likely to be the last

block placed. This could have resulted from confusing the diamond with the hexagon and the square with the rectangle. The hexagon and rectangle are both larger and possibly easier to manipulate.

The variability in recalling the blocks could reflect familiarity with design and/or name. The circle was remembered by 98% of the subjects, while the hexagon was recalled by only 43% of the subjects. Since the cross was recalled by only 48% of the subjects, complexity of a design is likely to be responsible for poor recall.

Recorded observations of problem solving behavior suggested that major components in rapid completion were organized and systematic approaches to the task. The summary of observations could be used in future studies to standardize collection of data.

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Table 1
Characteristics of Subjects

	Control (N=24)			Neuro (N=23)		
	Range	M	SD	Range	M	SD
Age	15-43	29.5	7.6	19-43	28.7	7.2
Education (years)	10-18	13.1	2.0	10-18	12.9	1.9
Shipley Est IQ	80-117	99.3	10.9	67-117	93.2	12.9
HRB Imp Index	0-.6	2.2	1.8	.1-1.0	5.3	2.6
% Right handers	94			95		
% Male	87			92		

Table 2
Summary of Actual Performance Test Scores

	Control (N=24)		Neuro (N=23)		
	M	SD	M	SD	t-test
Total Time	12.08	4.33	17.18	4.78	xx
Dom Hand	5.45	1.70	7.23	2.01	xx
N-Dom Hand	4.26	1.83	6.22	2.19	xx
Both Hands	2.32	1.15	3.50	1.94	x
Memory	7.83	1.43	7.04	1.60	ns
Localization	4.58	2.18	2.85	1.98	x

x x p < .01.

x p < .05.

Table 3
Memory of Blocks by All Subjects^a

Block ^b	% Recall
2	98
10	97
5	96
9	87
4	86
1	77
7	73
6	62
3	48
8	43

- a Mean memory for Control = 7.83, Neuro = 7.04 $p > .05$.
 b Refer to Figure 1 for block shape

Table 4
Observations of the Qualitative Aspects of the Tactual Performance Test.

Control	Neuro
Required minimal repetition of instructions	Needed reminders to use only one hand; the board or blocks had not be changed
Persisted in task. Appeared challenged.	Appeared easily frustrated, believed task was very difficult or impossible.
Coordinated, quickly recognized shape of block.	Clumsy, knocked blocks off board and table. Difficulty recognizing shape of block.
Memory of blocks and spaces on board increased across trials.	Minimal recall of blocks or spaces across trials.
<u>Systematic problem solving</u> a. Worked up, down, or across board feeling blocks and spaces. b. Held block in hand and felt space with middle and index finger. c. Verbalized shape while working with block. d. Quickly abandoned trying to put block in wrong space. e. When using both hands, held block in one and feels with other hand. f. Confused circle with round oval and diamond with hexagon.	<u>Initial and error</u> a. Scrubbed or slid blocks across board in random manner. b. Twisted and spun block without carefully feeling space. c. Minimal overt autofeedback. d. Persisted in trying to put block in space in wrong space. e. Felt board or blocks with both hands. f. Confused circle with round oval and diamond with hexagon.

TOP

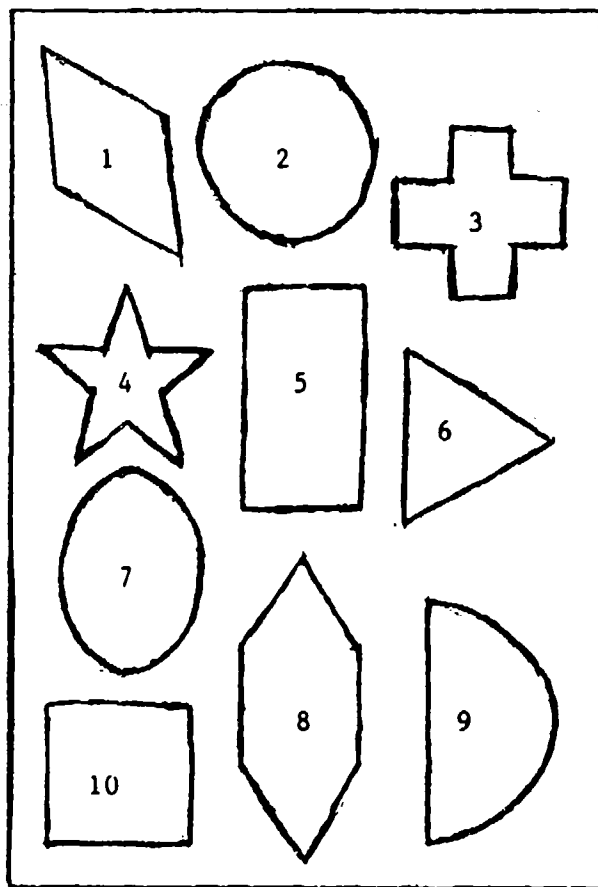


FIGURE 1. Tactual Performance Board with reference numbers

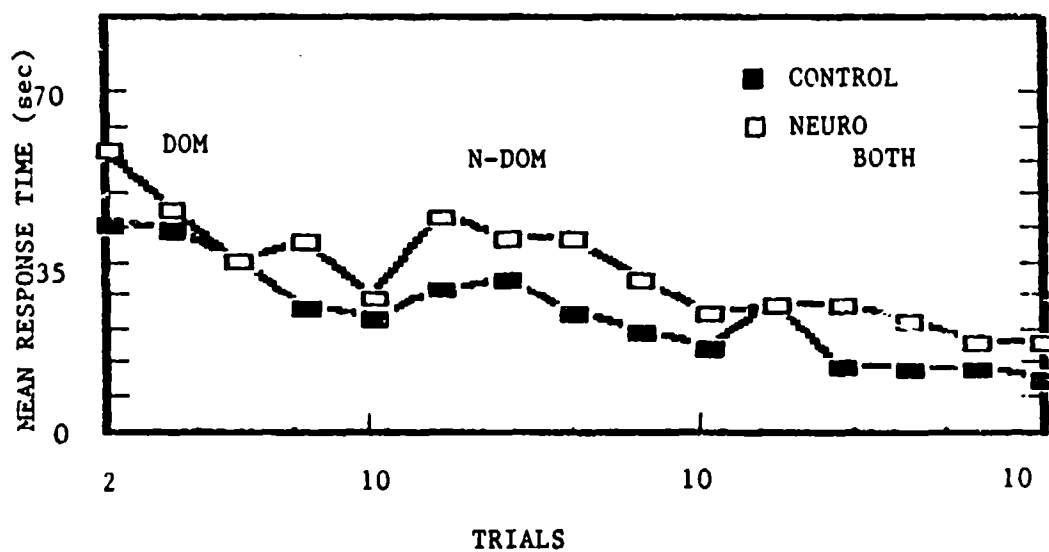


Figure 2. Mean response time of groups of correct placement

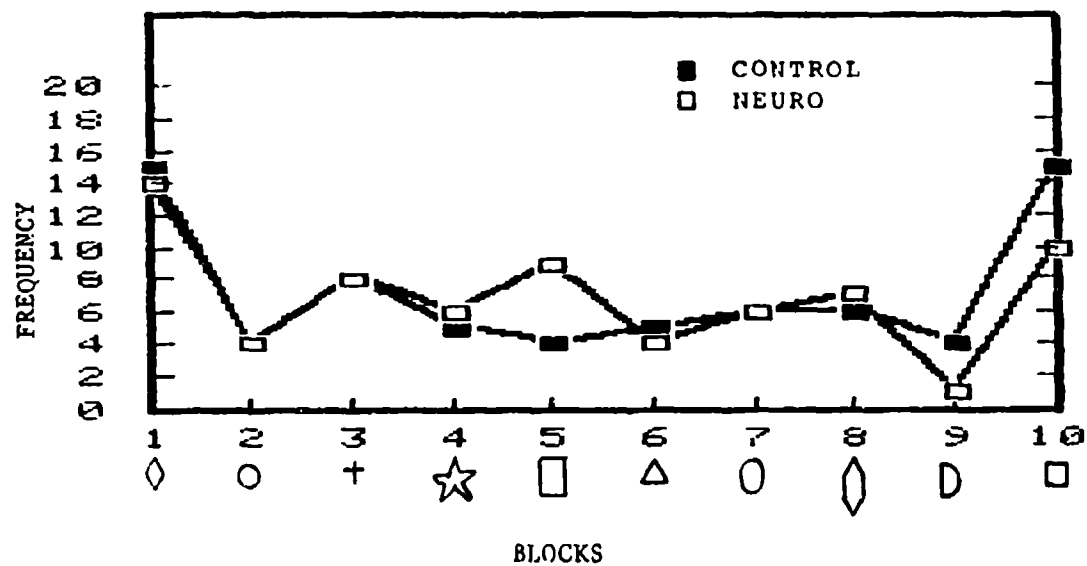


Figure 3. Total frequency of last correctly placed block in each trial

AD-P005 569

CHILDREN'S LURIA

NEUROPSYCHOLOGICAL CORRELATES OF THE LURIA-
NEBRASKA CHILDREN'S BATTERY IN CONDUCT
DISORDERED, BRAIN DAMAGED AND NORMAL
CONTROL CHILDREN

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→ The present article examines the neuropsychological profiles of brain-damaged, conduct-disordered, and normal control children using the the Luria-Nebraska Children's Battery. The subjects consisted of twenty-one normal controls, twenty-three brain-damaged children based on an established diagnosis of brain damage and twenty-one DSM III conduct disorder diagnosis and current psychiatric hospitalization for that condition. All subjects were tested using an IQ measure and the Luria. One-way analysis of variance revealed significant difference between groups on all Luria summary scales. Analysis of covariance did not significantly alter Luria summary scale means. Pairwise comparisons were made to indicate direction of significant differences or lack of such between groups. A stepwise discriminant analysis was quite successful in accurately predicting brain-damage and normal control group membership.

↑ The Luria Nebraska Neuropsychological Battery, Children's Revision, is a relatively new children's assessment battery designed for use with children in the eight to twelve year old age range. The children's battery is of the same general design and format as the similarly named version of the adult battery. The adult version of the battery has received a great deal of critical press (Adams, 1980; Spiers, 1981) leveled at both the design and utility of the battery. Since the Children's Revision shares the same theoretical underpinnings as the adult version, it is thus open to many of the same criticisms. Both batteries are based on the work of the late A. R. Luria.

The battery's are an attempt to reflect his developmental approach towards the evaluation of brain-behavior relationships. This developmental approach is seen in terms of scoring criteria and in terms of what each item and scale are presumed to be assessing. The battery in its current form is composed of 149 items which are grouped into eleven summary scales: Motor, Rhythm, Tactile, Visual, Receptive Speech, Expressive Language, Writing, Reading, Arithmetic, Memory and Intellectual Processes. Each item is intended to tap a basic skill area providing the examiner with a comprehensive and detailed assessment of a wide variety of functions. The grouping of the items into scales follows the same pattern as in the adult battery, along the broad conceptual lines indicated by Luria (1966, 1973) and by Christensen (1975). These groups (scales) are intended to provide a global view of major classes of neuropsychological abilities.

There have been three previous versions of the test prior to the revision currently in use. Throughout the revision process there has been an effort to identify those test items or test instructions which require modification and/or elimination. The current version has been administered to 125 normal children, 25 at each of the five age levels. All the children were achieving academically within two years of their grade placement and had WISC-R IQ's above 80. Performance norms were generated for each age group and this data was analyzed to establish a 3-point scoring scale for each test item. A scoring of "0" represents performance equal to less than one standard deviation below the mean; a score of "1" represents performance between one and two standard deviations below the mean and a score of "2" represents performance more than two standard deviations below the mean. Developmental trends were assessed so as to establish age group norms. This was designed to correct for differences in performance due to developmental maturation of itself and correspondingly, was an attempt to insure the validity of the clinical scale profile.

The validity of a new assessment instrument is a key issue and is critical in terms of ultimate acceptance of an instrument's utility. To date, there have been several validation studies of the Children's Luria all reflecting positive results. In the initial validation study by Wilkening and her colleagues (Wilkening, Golden, MacInnes, Plaisted and Hermann, 1981) 76 brain damaged and 125 normal children were assessed using the Children's Luria. All subjects in the brain damage category presented with definitive external validating evidence of brain dysfunction. An overall hit rate of 86.2 percent was realized after utilizing a computer derived multiple regression formula taking age into account. Each scale was also found to be effective in making the discrimination between groups.

A cross validation has been conducted by Gustavson and his colleagues (Gustavson, et al., 1982) utilizing 58 brain damaged children and 91 normals. Again definitive external criteria were available on all the brain damaged subjects. Using the initial studies formula and a set of decision rules, an 85 percent hit rate was realized in discriminating between groups.

The present study is designed in part to provide an additional cross validation of the preliminary research using a new sample of brain damaged and normal control children. A second purpose of the study is to conduct further analyses of the relationship of the Children's Luria to other neuropsychological skill areas and a varying diagnostic group, specifically, a conduct disordered population. Werry (1978) presents a host of evidence that conduct disordered children have a number of correlates indicating a high likelihood of some coincidence with minor neurological abnormalities. The present study's design is to further examine the neuropsychological status and functioning of the conduct disordered child, especially in comparison to his "normal" control and brain damaged counterparts.

METHODS

Subjects:

A total of sixty-five subjects were included in the study. Twenty-one conduct disordered children were selected based on a DSM-III conduct disorder diagnosis and current psychiatric hospitalization for that condition. A group of twenty-three brain damaged children were selected based on an established diagnosis of brain dysfunction by a qualified physician.

The mean age of the normal group was 124.43 months; 124.70 months for the brain damaged group and 133.50 months for the conduct disordered group. No significant differences were found between the three groups with respect to age ($p < 0.05$) although considerable variability was noted. The normal control group consisted of fourteen males and seven females. The brain damaged group consisted of nine males and fourteen females. The conduct disordered group consisted of eighteen males and four females.

Measures:

Experimental measures consisted of (1) the Wechsler Intelligence Scale for Children-Revised (WISC-R) and (2) the Children's Luria-Nebraska Neuropsychological Battery (LNNB-C). The WISC-R has long been the standard tool utilized in the assessment of children's intelligence. The reader is referred to the test's manual for a review of reliability coefficients.

Leark (1983) in a LNNB-C reliability study conducted on validation and cross-validation samples reports results indicating an impressive degree of internal consistency. Coefficient alphas for the initial validation sample ranged from .73 to .90. For the cross-validation sample reliability coefficients ranged from .71 to .92.

As aforementioned the Children's Luria was adapted from the adult form and contains 149 items that collapse into eleven major summary scales designed to assess a broad range of neuropsychological abilities. Three additional scales

have also been derived to assess lateralized cerebral function and the presence of brain dysfunction. The reader is referred to the test manual for a further delineation of content areas and items of the test battery.

All subjects received the standardized Children's Luria battery and the WISC-R. Testing was performed by arrangement so as not to interfere with hospital or personal plans, schedules, or routines. Testing was typically completed in one session unless the subject's hospital/personal schedule required two or more sessions. All Luria items were scored according to the methods outlined by Golden in the test manual.

RESULTS

The means, standard deviations, and results of one-way analyses of variance (ANOVA) for the various summary measures are presented in Table 1. Group differences were found on all Luria summary scales as well as on the IQ measure. The one-way analysis of variance did not reflect group differences in age.

Because of group differences in IQ, an analysis of co-variance was used to examine the data (Luria summary scales scores are presented in Table 2). A comparison of the Luria scales with adjusted means (IQ as co-variate) to the initial Luria mean scale scores reflects very little difference. Pairwise comparisons using the Scheffe' test on the unadjusted group Luria scores found significant differences between brain damaged and normal controls on all Luria measures. The conduct disordered group was found to not differ significantly from normals on seven of the fourteen Luria scales including Rhythm, Tactile, Visual, Expressive Language, Intelligence, Left Sensorimotor, and Right Sensorimotor. The conduct disordered group was found to not differ significantly from the brain damaged group on two of the fourteen Luria scales including Writing and Math. The conduct disordered group was found to be significantly different from both the normal control and brain damaged groups on four of the fourteen Luria scales including Motor, Receptive Language, Memory, and Pathognomonic scales. On the Reading scale the conduct disordered group was found to not differ significantly from either the normal control group or the brain damaged group. The reader is referred to table 3 for a summarization of group differences.

A step-wise discriminant analysis was performed to determine which Luria scales would be most useful in accurately predicting group membership. Two factors were obtained from this analysis. Factor one, a combination of five Luria scales including Pathognomonic, Visual, Left Sensorimotor, Right Sensorimotor, and Reading proved an extremely strong factor structure accounting for 89.66 percent of the variance. The second factor was considerably weaker accounting for the remainder of the variance (10.34) and was made up on the balance of the Luria scales. The utilization of factor one and factor two resulted in an 81.0 percent hit rate with the normal group, a 82.6 percent hit rate with the brain damaged group and a 47.6 percent hit rate

with the conduct disordered group. The overall percent of cases correctly classified was 70.77 percent. The reader is referred to Table 4 and Table 5 for further elaboration of the discriminant factor structure and classification hit rates.

DISCUSSION

The results of the current validation study appears to strongly support the validity of the Children's Luria-Nebraska Battery as a measure of neuropsychological functioning in older children. The Battery appears to be quite effective in discriminating between groups of brain dysfunctional and normal children. The present results for accurate classification (81.0% normal and 82.6% brain damaged) appear very much in keeping with initial validation findings of 86.2% and cross-validation findings of 85.0% overall hit rates.

Findings with respect to the conduct disordered group raises a number of questions with regard to their performance differences/similarities with the normal and brain damaged groups. The validity of the DSM III diagnostic category of conduct disorder is an initial question mark as a separate and discrete diagnostic sub-group. Consequently, utility of the conduct disordered group findings may be questioned on nosological grounds. However, assuming a modicum of validity in the diagnostic category, current findings raise the question of how and/or in what ways the conduct disordered child's neuropsychological skills as measured by the Child's Luria are compromised. At the current level of analysis, i.e., comparison of Luria sub-tests, the conduct problem group predominately scores like the normal controls. This may suggest to us that in fact, most of these children resemble a normal control population at least in terms of their neuropsychological functioning. However, a sufficiently large number of sub-test scores are either different from both other groups, or resemble the brain damaged group, to warrant the question, "Does this reflect a certain "constellation" of neuropsychological deficiencies which may account for conduct problems?" Admittedly, such speculation is highly suspect since it is difficult to determine whether conduct problems result from this subtle "constellation" of neuropsychological dysfunction or whether certain personality and/or psychiatric variables adversely affect neuropsychological test performance. Both possibilities appear plausible and most likely do account for current findings. However, it is hoped that further research utilizing increased controls, homogenous groups, and item evaluation of performance differences when sufficient group numbers are realized, will yield a great deal more information regarding the neuropsychological functioning of the conduct disordered child as well as useful information regarding the Children's Luria.

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Table 1

Means and Standard Deviations of Age, Luria Scale Scores, and IQ for Normal, Brain-Damaged, and Conduct Disordered Groups

Variable	Normal		Conduct Disordered		Brain-Damaged		F
	M	SD	M	SD	M	SD	
Age (months)	124.43	18.41	133.50	17.23	124.70	17.41	1.87
FSIQ (WISC-R)	104.55	6.95	98.60	10.64	83.59	19.31	13.38*
Motor	43.05	7.27	51.86	9.39	61.22	15.05	14.49*
Rhythm	44.00	6.20	50.55	9.84	59.35	13.87	11.73*
Tactile	48.62	5.86	53.68	11.58	65.87	18.28	10.14*
Visual	45.57	7.62	50.68	7.71	61.91	12.01	17.51*
Receptive	45.95	4.74	58.14	13.84	73.65	21.40	18.40*
Expressive	44.20	4.51	55.86	13.21	70.00	22.86	14.89*
Writing	46.57	8.13	60.55	16.22	72.13	19.96	14.48*
Reading	45.71	7.33	56.14	17.46	63.87	18.56	7.60*
Math	46.29	5.62	60.14	15.87	70.17	22.12	11.88*
Memory	44.48	6.89	55.09	9.37	65.04	14.55	19.63*
Intelligence	49.38	11.15	58.68	11.84	71.13	18.23	12.99*
Pathognomonic	45.62	10.38	62.29	13.10	75.70	14.49	30.21*
Left Hemisphere	52.00	10.18	56.33	9.73	72.65	23.30	10.28*
Right Hemisphere	48.33	6.50	56.52	12.17	70.52	22.90	11.25*

*p<.01

Table 2

Adjusted Mean Luria Scale Scores with IQ as Co-variate Compared with Unadjusted Means

Variable	Normal		Conduct Disordered		Brain-Damaged	
	Adjusted Means	Unadjusted Means	Adjusted Means	Unadjusted Means	Adjusted Means	Unadjusted Means
Motor	42.90	43.05	50.80	51.86	61.73	61.22
Rhythm	44.20	44.00	54.70	53.68	66.23	65.87
Tactile	48.70	48.62	54.70	53.68	66.23	65.87
Visual	45.30	45.57	50.90	50.68	62.64	61.91
Receptive	45.80	45.95	58.65	58.14	73.95	73.65
Expressive	44.10	44.20	56.00	55.86	70.95	70.00
Writing	46.55	46.57	59.75	60.55	73.27	72.13
Reading	45.95	45.71	56.65	56.14	63.82	63.87
Math	46.50	46.29	60.25	60.14	70.27	70.17
Memory	44.80	44.48	54.65	55.09	65.73	65.04
Intelligence	49.25	49.38	57.53	58.68	71.73	71.13
Pathognomonic	46.00	45.62	62.16	62.29	73.50	72.65
Left Hemisphere	52.60	52.00	56.58	56.33	73.50	72.65
Right Hemisphere	48.40	48.33	56.63	56.52	71.27	70.52

Table 3

Summary of Pairwise Comparisons of Luria Summary Scales (Scheffe Test)

Conduct Like Brain-Damaged	Conduct Unlike Brain-Damaged or Normals	Conduct Like Normals
Writing Math	Motor Receptive Language Memory Pathognomonic	Rhythm Tactile Visual Expressive Language Intelligence Left Hemisphere Right Hemisphere

Reading like both Brain-damaged and Normals

Table 4

Summary of Factor Structure Stepwise Discriminant Analysis of Luria Scales for Conduct, Normal, and Brain-Damaged Groups

Factor	Eigenvalue	Pct. of Var.	Cum. Pct.
1. Pathognomonic	0.51		
Visual	0.46		
Left Hemisphere	0.44		
Right Hemisphere	0.42		
Reading	0.41	1.188	89.66
			89.66
2. All Remaining Luria Scales	<0.00	0.137	10.34
			100.00

Table 5

Discriminant Analysis: Classification Summary

Group	Number of Cases	Predicted Group Membership		
		Normal	Brain- Damaged	Conduct- Disordered
Normal	21	17=81.0%	0=0.0%	4=19.0%
Brain-Damaged	23	2=8.7%	19=82.6%	2=8.7%
Conduct-Disordered	21	7=33.3%	4=19.0%	10=47.6%

Figure 1
Mean Luria Scale Scores for Normal, Brain-Damaged and Conduct Disordered Groups

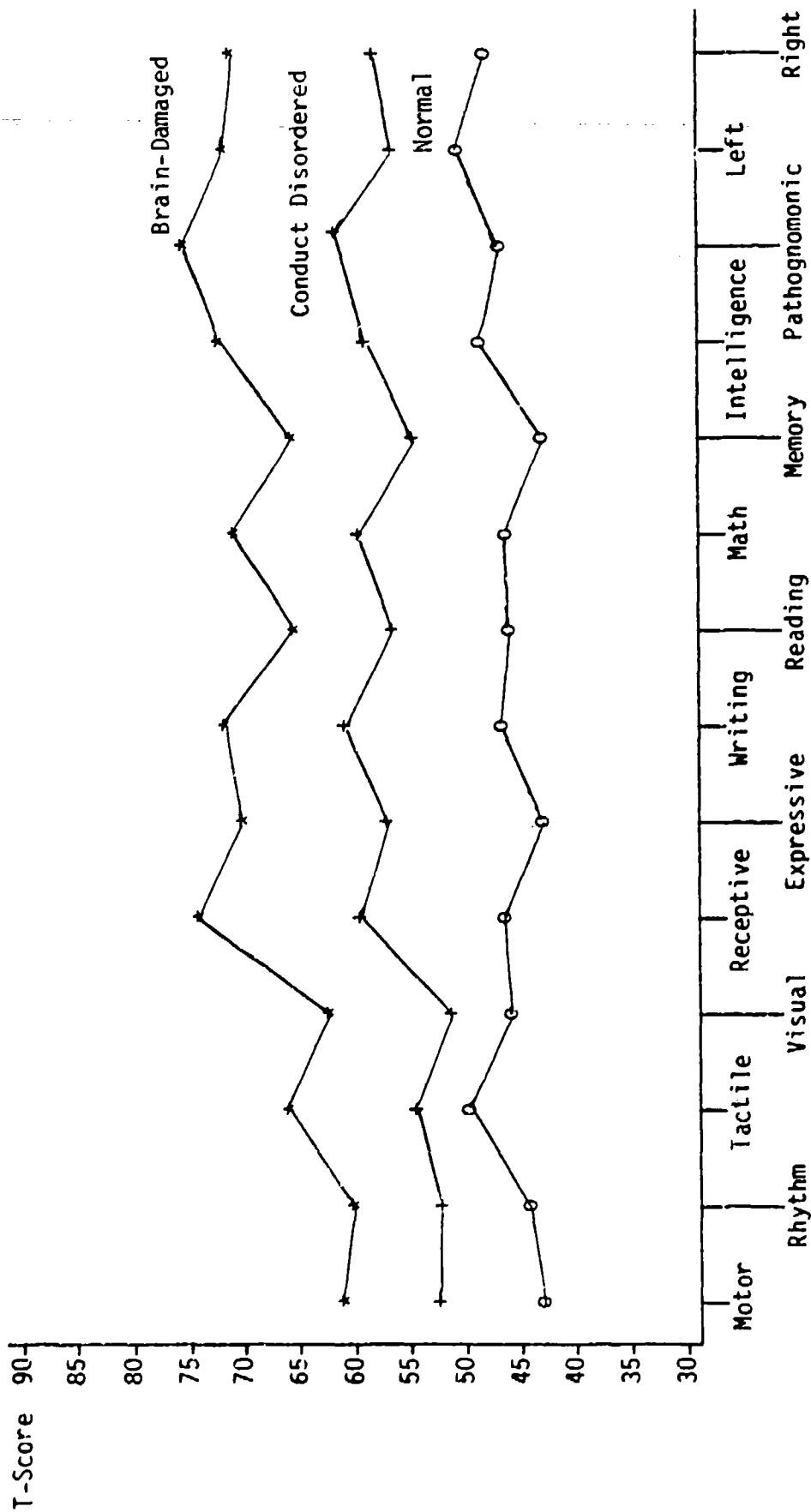
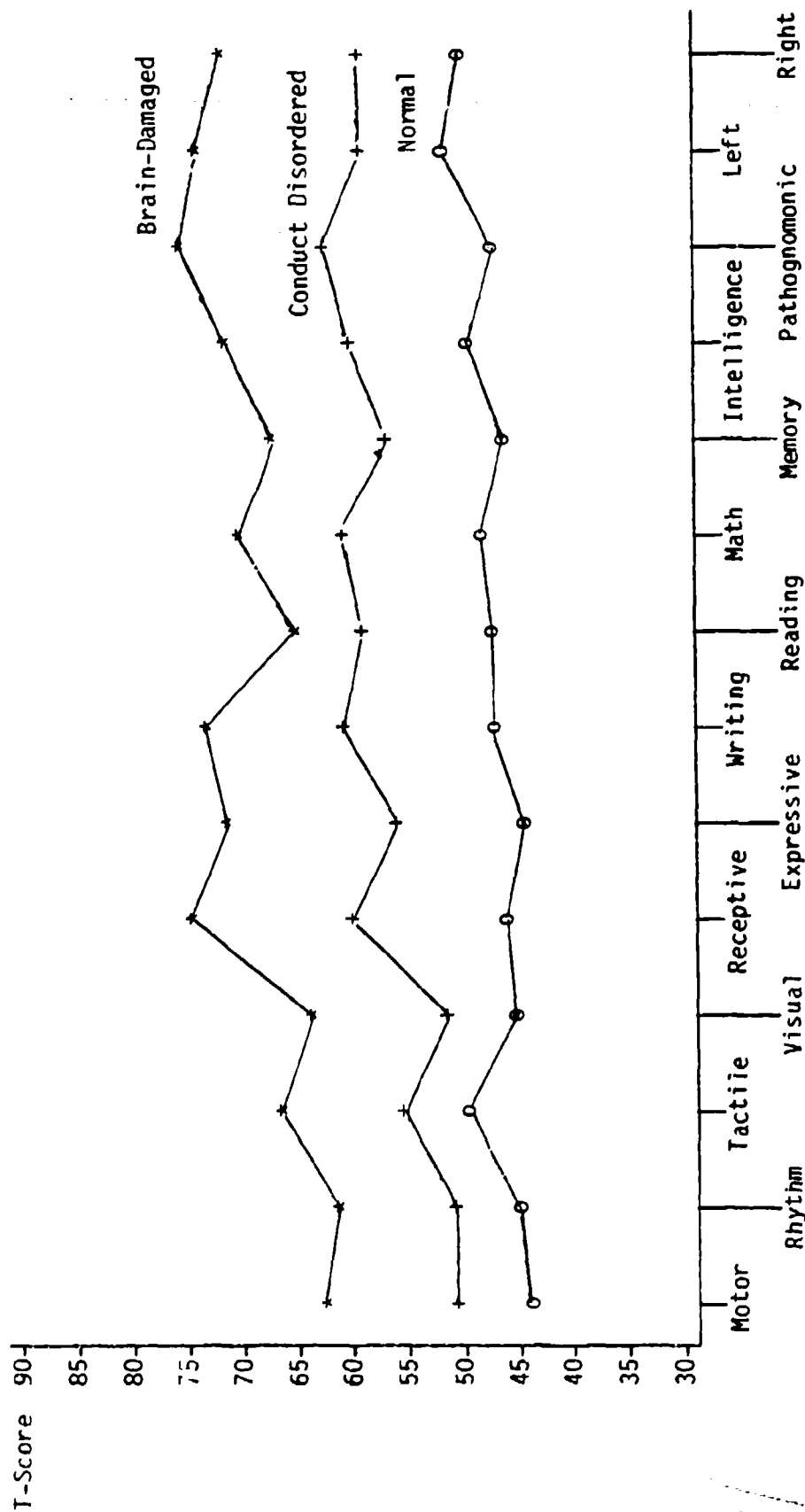


Figure 2
Adjusted Mean Luria Scores with IQ as Co-variate for Normal, Brain-Damaged, and Conduct Disordered Groups



HEALTH PSYCHOLOGY
PAPERS

AD-P005 570

Acquired Immunodeficiency Syndrome (AIDS):
Issues and Information for the
Military Health Psychologist

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Abstract

There has been an increased interest in acquired immunodeficiency syndrome (AIDS) by both military and civilian health care professionals. Epidemiological studies have indicated that the human immunodeficiency virus (HIV) which is associated with AIDS may be present in 1 to 1.5 million people in the United States (Barnes, 1986). The Department of Defense has initiated a program which involves the testing for the presence of the HIV antibody in all active duty military personnel. Individuals who are antibody-positive but have no symptoms of AIDS are retained on active duty. Consequently, military health psychology can be expected to provide an important role in the evaluation and treatment of these individuals.

This paper provides an overview of AIDS and the nature of the HIV infection. The psychological and neuropsychological factors related to HIV are reviewed. The need for therapeutic intervention and selected treatment issues are presented.

Acquired immunodeficiency syndrome (AIDS) has been the subject of much attention by the general public and health professionals in recent years. AIDS is reported to have been initially diagnosed in the United States in 1979 (Gonsiorck, 1986) and is believed to have originated in Central Africa during the 1960's. The condition is caused by a virus which compromises the immune system resulting in a general deterioration of the body's ability to defend itself against disease. Consequently, the individual becomes susceptible to a wide range of infectious diseases (Curran, 1985).

The Center for Disease Control predicted that 35,000 cases of AIDS would be diagnosed in 1986 with a projected total of 201,000 to 311,000 cases by 1991. The number of deaths as a result of AIDS is expected to increase from 18,000 in 1986 to 54,000 in 1991. Although these figures indicate the prevalence of this serious health problem, they do not include the individuals who have the AIDS virus but are asymptomatic. It has been estimated that 1 to 1.5 million people in the United States have the virus and 20 to 30 percent will eventually develop AIDS (Barnes, 1986).

The significance of these projected figures has not been ignored by the military. In 1985, the Department of Defense began testing recruits for the presence of the human immunodeficiency virus (HIV) antibody. Those who were seropositive were considered ineligible for enlistment. In 1986, testing of active duty and reserve personnel was begun. Using a classification system which was developed at the Walter Reed Army Institute of Research (Redfield, Wright and Tramont, 1986), individuals are categorized by stages based on specific clinical criteria. Table 1 lists the six stages and selected criteria used in the Walter Reed classification system.

Insert Table 1 Here

Until recently, this classification system had been used as the basis for determining if an individual would remain on active duty or be medically discharged. Those individuals who were found to have the HIV antibody based on the results of the enzyme-linked immunosorbent assay test (ELISA) and a supplemental test known as the Western Blot could remain on active duty if symptoms of AIDS were not present (i.e., Walter Reed Stages 1-4). Individuals who developed clinical symptoms of AIDS or related conditions (i.e., Walter Reed Stages 5 and 6) were medically discharged. Recent information (Department of the Army, 1987) has indicated that stage classification has been eliminated as a basis for medical discharge. However, the clinical symptoms used in the staging classification will continue to be the determinants of an individual's medical fitness. Persons who are HIV antibody-positive but do not exhibit physical symptoms of AIDS or related conditions will remain on active duty. Psychologists working in the military health care system will, as a result of these actions, have the opportunity to assess and treat these seropositive individuals. This paper will provide a review of basic information about AIDS as well as the psychological factors associated with this disorder. Issues related to therapeutic intervention with individuals who are seropositive will also be discussed.

AIDS: Description and Pathophysiology

The virus which is considered to be responsible for attacking the immune system has been given a variety of names to include human T-lymphotropic virus type III (HTLV-III), lymphadenopathy-associate virus (LAV) and AIDS-related retrovirus (ARV). The International Committee on the Taxonomy of Viruses has recommended human immunodeficiency virus (HIV) as the name of the virus which causes AIDS (Bennett, 1986). The action of HIV involves the destruction of T-4 lymphocytes which directly or indirectly regulate almost every aspect of immune function. As the number of these cells decreases, the opportunity exists for infections to develop which cannot be controlled by the immune system. However, the action of HIV does not appear to be simply quantitative. Laboratory models of HIV infection suggest that health status after becoming infected may also influence the progression of the disease. While the exact mechanism of the body's response to HIV is unclear, it is

thought that the virus may be stimulated by the natural action of T-4 cells in combating infection. Thus, persons who are infected may influence the course of the disorder through attention to health habits which reduce the risk of exposure to other infections (Bennett, 1986).

Everyone who develops HIV antibodies will not develop AIDS (Barnes, 1986). Some estimates have reported that only 5% of seropositive individuals will develop the disease while other estimates have projected 30% (Barnes, 1986; Curran, 1985). Incubation periods ranging from 4 to 84 months have been reported in a study of transfusion associated AIDS (Peterman, Jaffe, Feorino, Getchell, Warfield & Haverkos, 1985).

Transmission of HIV is believed to occur only through contact with body fluids. Transmission occurs from persons who are antibody-positive but do not demonstrate clinical symptoms of AIDS. The four routes of transmission which have been identified are: sexual contact, use of HIV-contaminated syringes, blood and blood products and from infected mothers to newborns (Curran, 1985). It is important to note that no case of transmission through casual contact has been reported. This fact is particularly significant in view of what has been termed "AIDS Hysteria" (Krapfl, 1986). Providing accurate information regarding the routes of transmission is essential in order to reduce the anxieties of both the patients and those who interact with them.

Mortality figures regarding AIDS indicate that 80% of those diagnosed die within two years after the diagnosis has been made, and 100% are dead after three years (Levy, Bredesen & Rosenblum, 1985). Death usually results from an incurable systemic infection or a severe encephalopathy resulting in coma. Approximately 200 drugs have been screened to determine their effectiveness against HIV. Drugs known to enhance the immune system such as alpha interferon have not been effective. Since AIDS does not represent a unitary phenomenon among patients the restoration of immune function is a difficult process (Bennett, 1986). Other research (Francis and Petricciani, 1985) has focused on a vaccine to prevent transmission, but preliminary findings suggest that it will be 3-5 years before a vaccine is available. Prevention efforts currently consist of education and behavioral interventions designed to reduce the risk of exposure to HIV.

Psychological Factors of HIV Infection

Much of the information concerning the psychological impact of HIV infection has relied on clinical case studies and comparisons with terminal illness. Psychological adaptation to life-threatening illness should consider the medical and psychosocial aspects as well as the individual psychological factors which are involved in the disorder. The field of psychoneuroimmunology has provided a basis for understanding the interaction of behavioral and environmental stress factors on physical diseases. While generalizing from other illnesses Coates, Temoshok & Mandel (1984) proposed that HIV immunosuppression is linked to the interaction of personality variables, transient states, genetics and environmental factors. This issue is particularly important in the assessment and treatment of persons who are HIV seropositive as lifestyle changes are important for these individuals and may contribute to their survival.

The diagnosis of AIDS has a number of psychosocial issues. AIDS was first identified in homosexual males (Levy, et. al., 1985) and it has been viewed as a disease of the homosexual community with the diagnosis carrying the implication of this sexual preference. However, increasing evidence supports heterosexual transmission (Barnes, 1986) and it is becoming more accurate to describe the risk of HIV infection in terms of sexual contact with an infected individual. Other psychosocial factors include rejection by others due to fear of infection and a variety of subtle and overt types of discrimination.

The psychosocial consequences of AIDS have been compared to those noted in cancer (Coates, et. al., 1984). The impact of the diagnosis on family, friends and health care providers result in behaviors which increase the patient's stress. After being told that the HIV antibody is present, social support can become critical to the person's ability to adapt.

The medical aspects of this disease will obviously influence adaptation. Holland and Tross (1985) have noted that the patient must be prepared to cope with changes in physical condition. Neurological disorders such as dementia may occur in advance of the more obvious physically debilitating symptoms. As a result of the patient's decreased cognitive abilities, the individual's coping mechanisms become impaired.

Cognitions such as a preoccupation with physical integrity and recurring thoughts of death have been reported as sources of psychological distress in AIDS patients (Holland and Tross, 1985). These factors often result in anxiety, depression and anger. The patient may expect rejection from others and begin a process of personal rejection and isolation. Attention to the potential for suicide is important during this period. A review of the frequency of psychiatric diagnoses given to AIDS patients found depression to be the most frequent category. Although suicidal ideation was reported more frequently among AIDS patients than among terminal illnesses (e.g., cancer), suicide attempts were uncommon except in those individuals with personality disorders (Holland and Tross, 1985). Psychiatric consultation may be required in cases of a major depressive episode or other psychiatric condition.

Denial is another psychological factor which is encountered in work with the seropositive patient. It has been suggested that denial may serve to negate personal responsibility and control, but it can also serve to provide a healthy, albeit somewhat primitive, form of emotional insulation for the patient (Price, Omizo & Hammatt, 1986). This initial denial reaction of some patients should be examined within the context of what has been called "successful deniers" (Abrams, Ditley, Maxey & Vobberding, 1986). These individuals acknowledged the seriousness of their condition but continued to maintain a productive lifestyle. They accepted the reality without being overcome by it. It is important for the clinician to recognize the traumatic aspect of being notified that the HIV antibody test was positive. For some individuals, the notification serves to confirm their fears. For others, especially family members, the information is unexpected and denial typically occurs. The need to deny can change to acceptance with the assistance of psychotherapy.

Psychotherapeutic Intervention

Psychotherapy with seropositive patients should include a variety of techniques. Before any therapeutic intervention can be successfully utilized, the therapist should be aware of negative attitudes or assumptions about HIV infection. Fears of contagion and concerns about caring for the terminally ill will decrease the clinician's ability to provide quality care. These issues need to be addressed by the therapist and by the other staff members who work with the patient. Confusion and uncertainty about AIDS exists among many health care professionals. Psychologists can have an important role in clarifying the misconceptions and working toward the development of an understanding of these patients. In order to perform this essential consultative and therapeutic role, the psychologist must know the current facts about the disorder as well as understand the unique existential issues involved with these patients.

A second aspect of therapeutic management is working through the initial anxiety, depression and guilt which often occur after the diagnosis has been made. Gonsiorck (1986) noted that the therapist should assist the patient in dealing with these symptoms while allowing the individual to experience the grieving process. An important consideration, as with grief reactions, is to ensure that the patient does not become immobilized by depression. Supportive psychotherapy to include methods for managing anxiety (e.g., relaxation training) should be available. A psychoeducational model similar to that described by Price, *et. al.* (1986) can be helpful in disseminating valid information to the patient. This model consists of providing accurate, current information to the patient in a systematic manner. The patient is encouraged to take an active role in treatment through involvement in nutrition classes, stress management and the use of visual imagery. The goal is to focus the patient's energy toward a positive, health-promoting lifestyle.

Behavior therapy has been successfully utilized in assisting patients with a variety of chronic and terminal diseases. Kelly and St. Lawrence (1986) proposed that cognitive modifications and stress management as well as behavioral interventions for depression could be helpful for patients who are HIV antibody-positive. The uncertainty about the future in a person who feels physically healthy can be the basis for anxiety and maladaptive coping responses (e.g., alcohol abuse). Such responses are considered to have an immunosuppressant effect which can compound the problems faced by the seropositive patient (Kelly & St. Lawrence, 1986). The use of behavior therapy can alter the coping response of these patients which may decrease morbidity and mortality.

A final intervention to consider in the treatment of seropositive patients as well as those with AIDS is the use of a psychosocial support group. Such groups offer the opportunity to learn effective coping strategies for the multiple issues associated with the condition. Group therapeutic interventions offer the opportunity for peer support, the modeling of healthy coping behaviors and the type of confrontation which is not available through individual therapy. Gonsiorck (1986) has noted that the group support and understanding of individuals with the same physical condition is something which the physically healthy therapist would be unlikely to provide.

Neuropsychological Aspects

In addition to the psychological factors involved in HIV infection, there has been a substantial volume of research to support the existence of neurological complications. A subacute encephalopathy with dementia and motor dysfunction has been described (Navia & Price, 1986). While the exact incidence and prevalence of this condition is uncertain, it was reported that in two-thirds of the postmortem examinations of AIDS patients, evidence of subcortical abnormalities was noted. Although many patients develop dementia after onset of other clinical symptoms of AIDS, approximately 25% have shown some evidence of cognitive impairment prior to meeting the requirements for the diagnosis of AIDS (Navia, Jordan & Price, 1986). This finding is important to consider when assessing the seropositive patient because the clinical symptoms of a dementia associated with HIV infection may be misinterpreted as signs of depression.

The clinical features of AIDS dementia have been described as having an early stage and late stage temporal profile (Navia, et.al., 1986). As previously noted, early symptoms of dementia will occur prior to the more obvious physical complications of AIDS. Table 2 lists the early stage symptoms of AIDS dementia.

Insert Table 2 Here

Cognitive, motor and behavioral symptoms have been described in addition to memory loss and attentional deficits. A general slowing of mental abilities has been reported. Marked behavioral changes to include apathy and withdrawal were described. These symptoms which were indicative of a mild impairment in neuropsychological status were often overlooked or attributed to systemic illness or a psychiatric disorder by clinicians (Navia, et. al., 1986).

The late stage symptoms of AIDS dementia are presented in Table 3.

Insert Table 3 Here

Late stage symptoms reflect global cognitive dysfunction with motoric symptoms. Organic psychosis and disinhibition have also been observed (Navia, et. al., 1986).

Levy (1986) reported that 37% of AIDS patients evaluated at the University of California, San Francisco, had significant neurological complaints with the most common syndrome being the AIDS dementia complex. The etiology of AIDS dementia has been debated, but studies (e.g., Navia & Price, 1986) have supported the relationship between dementia and the presence of HIV in brain tissue. Regardless of etiology, it is important for the clinician to consider neuropsychological factors in assessing the HIV seropositive patient. A patient who complains of inattentiveness, poor concentration, forgetfulness and apathy may be depressed or displaying the early symptoms of the AIDS dementia complex. Neuropsychological evaluation should be accomplished in these cases in order to make the differential diagnosis as well as describe the nature and type of deficits.

Conclusions

Psychologists involved in the treatment of AIDS patients and those individuals who are seropositive for the HIV antibody are confronted with significant challenges. The psychological issues associated with life threatening illness and the multiple psychosocial factors which are concomitants of this condition mandate that the clinician apply a full range of therapeutic approaches. Ensuring access to current information is essential as new data about AIDS is continually being reported. The fact that seropositive individuals will remain on active duty requires that the military psychologist understand the disorder and be responsive to the unique needs of this population. It is especially important to attend to the subtle changes in cognitive, motor and behavioral functions which may indicate the early stages of dementia. Finally, the clinician should be aware of the need to serve as a consultant in order to dispel the misconceptions about these patients.

Footnote

The opinions expressed in this paper are those of the author and are not intended to represent the official views of the Department of the Army or the Department of Defense.

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Table 1

Walter Reed Staging Classification for HIV Infection

<u>Stage</u>	<u>HIV Antibody</u>	<u>Chronic Lymphadenopathy</u>	<u>T-Helper Cells/mm³</u>	<u>Opportunistic Infection</u>
WRO	neg.	neg.	400	neg.
WR1	pos.	neg.	400	neg.
WR2	pos.	pos.	400	neg.
WR3	pos.	pos./neg.	400	neg.
WR4	pos.	pos./neg.	400	neg.
WR5	pos.	pos./neg.	400	pos.
WR6	pos.	pos./neg.	400	pos.

adapted from Redfield et. al. (1986)

Table 2

Early Symptoms of AIDS Dementia

(Navia & Price, 1986)

Cognitive

Decreased attention/concentration
Recent memory loss
Mental slowing

Behavioral

Feels apathetic
Withdrawal
May experience agitation or confusion

Motor

Gait becomes unsteady
Poor coordination
Tremor

Table 3

Late Symptoms of AIDS Dementia

(Navia & Price, 1986)

Mental Status

Global dementia, confusion
Psychomotor slowing, verbal responses are delayed, near or absolute mutism
Blank stare
Easily distracted
Unawareness of illness
Severe disinhibition
Organic psychosis

Effects of education and relaxation training
with essential hypertension patients

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Abstract

Thirty subjects with essential hypertension were randomly assigned to either a control, education, or education with relaxation training group. Independent blood pressure recordings were collected by medical staff at pretest, posttest, and 8-week follow-up. Results suggested a significant interaction between treatment and time for the dependent physiological measure, systolic blood pressure. During the pretest to follow-up period, the control group averaged a 5.9 mm. Hg. increase, the education with relaxation group an 8.8 mm. Hg. decrease, and the education group a 14.9 mm. Hg. decrease in systolic blood pressure. There was no significant difference in group means for diastolic blood pressure within groups over time. As measured at follow-up, education appeared more effective in reducing systolic blood pressure than education with relaxation training. More than 1/3 of subjects associated unpleasant side effects with their antihypertensive medication. Almost all treatment subjects rated both the education and relaxation as helpful for understanding and managing their hypertension.

INTRODUCTION

Hypertension is a precipitating factor in 500,000 strokes and 1,250,000 myocardial infarctions annually (Heyden & DeMaria, 1981). Current standards of the World Health Organization define hypertension as a systolic blood pressure (SBP) of 160 mm. Hg. or higher and a diastolic blood pressure (DBP) above 95 mm. Hg. (Heyden & DeMaria, 1981). Approximately 59,000,000 people in the United States currently have hypertension as defined by these criteria (Lauler, McCarron, Frohlich, & Tobian, 1983). More than 90% of high blood pressure is diagnosed as essential hypertension. Essential hypertension is asymptomatic in its early stages and is distinguished from secondary hypertension by ruling out organic causes such as Cushing's syndrome due to increased cortisol production, a tumor in the adrenal medulla, or a neoplasm of the adrenal cortex (Kaplan, 1980). Essential or idiopathic hypertension is without known cause and constitutes a major area of interest in behavioral medicine. A variety of life style factors have been implicated in its etiology.

Weiner (1979) has suggested that environmental factors account for approximately 70% of the etiology of essential hypertension. The Type A pattern of behavior characterized by aggressiveness, impatience, time urgency, and competitiveness has been cited (Rosenman & Friedman, 1961; Shekelle, Schoenberger, & Stamler, 1976; Zyzanski, Jenkins, & Rosenman, 1978) as has stress (Alexander, 1939; Graham, 1945; Miasnikov, 1962; Mustacchi, 1977). Data suggest that hypertensive subjects demonstrate a hyperreactivity to stress (Schachter, 1957; Shapiro, 1961; Engel, & Bickford, 1961; Shapiro & Surwit, 1976).

Weight gain and obesity are associated with an increase in blood pressure (Pickering, 1962; Kannel, Brand, Skinner, Dawber, & McNamara, 1967; Chiang, Pearlman, & Epstein, 1969). Excess dietary sodium (Dahl, 1963, 1965; Freis, 1976; Henry & Stephens, 1977; Hunt, 1980; Kaplan, 1980) and potassium (Amery, Bulpitt, Fagard, & Staessen, 1980; Hames, & Heyden, 1980) have also been implicated as well as caffeine and alcohol (Saunders, Beevers, & Paton, 1981; Reeves & Victor, 1982).

Relaxation therapy has been shown to have utility in the management of mild essential hypertension. (Peters, Benson, & Peters,

The opinions or assertions contained herein are the private views of the authors and are not to be construed as official or as reflecting the view of the Department of the Army or the Department of Defense.

This study was approved by the Clinical Investigation and Human Use Committees, William Beaumont Army Medical Center.

Thanks are given to Gavin G. Gregory, Ph.D. for assistance with statistical analysis.

1977; Jorgensen, Houston, & Zurawski, 1981; Patel, Marmot, & Terry, 1981; Southam, Agras, Taylor, & Kraemer, 1982). A variety of procedures have been effectively employed. These include: yoga (Datey, Deshmukh, Dalvi, 1969; Patel & North, 1975), biofeedback (Patel, 1975; Shapiro, Mainardi, & Surwit, 1977; Patel, Marmot, & Terry, 1981), progressive muscle relaxation (Shoemaker & Tasto, 1975), and meditation (Benson, Reary, & Carol, 1974; Stone & Deleo, 1976). Findings suggest that relaxation therapy is superior to instructions to "rest quietly" for an equivalent amount of time (Patel & North, 1975; Peters, Benson, & Peters, 1977).

Brauer, Horlick, Nelson, Farquhar, and Agras (1979) found relaxation therapy to be no more effective than supportive therapy in reducing blood pressure, and Luborsky, Crits-Christoph, and Brady (1982) found mild exercise to be as effective as relaxation therapy or blood pressure feedback. Horton (1981) and Reeves and Victor (1982) reported that mild to moderate hypertensive patients reduce their blood pressure through physical training. Seals and Hogberg (1984) promote exercise for its blood pressure lowering effect. Weight loss appears to be effective in lowering blood pressure (Eliahou, Iaina, Gaon, Shochat, & Modan, 1981; Pickering, 1982; Reeves & Victor, 1982) as is assurance and a positive treatment expectancy (Reiser, Brust, Ferris, Shapiro, Baker, & Ranoshoff, 1951; Goldring, Chasia, Schreiner, & Smith, 1956). Additionally, health education has been shown to increase blood pressure control (Morisky, Levine, Green, Shapiro, Russell, & Smith, 1983). These and other reports suggest that a variety of non-specific factors may be as effective as relaxation therapy for the behavioral management of essential hypertension.

Psychological and educational interventions have been most effective when employed in conjunction with antihypertensive medications (Shapiro, Schwartz, Ferguson, Redmond, & Weiss, 1977; Agras & Jacob, 1979). Antihypertensive medications reduce blood pressure and increase life expectancy (Veterans Administration Cooperative Group Study, 1967, 1970), but adherence to treatment is poor (McKenney, 1981). This is largely because of their frequent unpleasant side effects (Rosen & Kostis, 1985). Complications have been observed with medications prescribed for the treatment of this problem (Perry & Smith, 1978; Sackett, Taylor, Haynes, Johnson, Gibson, & Roberts, 1979).

The major question to be answered by this study is whether relaxation training adds anything as measured by reduced blood pressure for medically supervised hypertensive patients receiving education on the nature and management of their disease.

Method

Subjects

Thirty-nine adult subjects from a medium-sized military medical center in Southwestern United States with a medical diagnosis of essential hypertension (repeated clinic recordings for

more than three months of 140/90 mm. Hg. or higher prior to being placed on antihypertensive medication) and who expressed an openness to adjunctive behavioral management were referred by physician internists for the study. All but one of the participants had been stabilized for several months on antihypertensive medications. One subject was not being treated with antihypertensive medication.

Procedure

Subjects completed a pre-treatment psychological evaluation and provided voluntary consent. They were randomly assigned to one of three conditions: (1) education with relaxation, (2) education only, or (3) a control group. Eight 90-minute treatment sessions were conducted during a two-week period. Subjects in each treatment condition were seen in groups of 5 to 8 individuals. Subjects in both treatment groups received education on essential hypertension and the circulatory system (session 1). The role of diet to include both weight loss and the relationship between sodium and potassium was discussed during sessions 2 and 3. Smoking and exercise were discussed during sessions 4 and 5. Personality factors as defined by the Type A pattern of behavior were discussed during session 6. Time management was presented during session 7, and stress in cardiovascular disease in session 8. At the conclusion of each one-hour didactic presentation, subjects were divided into their previously randomly assigned groups. The education group continued to process information for an additional half-hour while the relaxation group was given instruction and practice in progressive muscle relaxation training (Rimm & Masters, 1974). The control group received no treatment or instruction.

Antihypertensive medications for all subjects were held stable during the treatment and follow-up periods. One male psychologist and a male psychology intern served as therapists.

Blood pressure data were collected during baseline, at the end of treatment, and at 8-week follow-up. Blood pressures were recorded independently of the treatment conditions by an experienced nurse who was unaware of subjects' group assignments. Measurements were taken from the right arm with subjects seated. Phase 5 Korotkoff sound was recorded as the DBP. Two blood pressure measurements, separated by a 5-minute interval, were recorded at each assessment. An average of the two measurements was used for statistical analysis.

Subjects were medically cleared to participate in voluntary (unsupervised) exercise (20 to 40 minutes of walking 4 to 6 days/week) during the study. During treatment and at 8 weeks follow-up subjects provided data on daily aerobic activity. Minutes of aerobic exercise were recorded and points awarded for statistical comparison (Cooper, 1978).

A medication side-effects index was constructed from frequently reported symptoms noted in the Physicians Desk Reference (1985). Subjects completed this instrument during the baseline period.

Subjects were also asked to record daily food intake in an effort to encourage them to eat a healthier diet and as a means of promoting self control through self monitoring (Kanfer, 1973).

Results

Nine subjects failed to complete program requirements and/or attend at least 50% of scheduled sessions and were dropped leaving 25 females and 5 males (10 per group). Two males were assigned to the education group; one to the control group and one to the relaxation group. No pretreatment differences (one way analysis of variance) existed between groups as determined by age, blood pressure, weight, or history of hypertension.

Subjects averaged 50.8 years of age (range = 33 to 66). A low positive correlation was observed between subjects age and pre-treatment blood pressure ($r = .35$).

The 25 female subjects in the study had a pretreatment weight of 172.3 pounds and the 5 males averaged 214.4 pounds. Positive pretreatment correlations between weight and blood pressure were obtained for both females ($r = .24$) and males ($r = .50$).

Mean pretreatment systolic and diastolic blood pressures were 138.2 mm. Hg. (range = 114 to 224 mm. Hg.) and 89.4 mm. Hg. (range = 73 to 108 mm. Hg.) respectively. Subjects averaged 104.8 months (range = 23 to 238 months) medical treatment for hypertension at the start of the study.

The major finding of this study was that both treatment groups showed a significant decrease (repeated measures ANOVA) in systolic blood pressure from pretreatment to posttest ($F(2,27) = 8.38, p < .002$). This difference was maintained at 8 week follow-up (see Figure 1). The control group showed no significant change in systolic blood pressure over time. The significance of these results was maintained when weight and age were used as covariates.

Repeated measures ANOVA suggested a significant within group interaction effect for systolic blood pressure ($F(4,54) = 7.15, p < .0001$) involving the treatment factor with three levels (education, relaxation, and control) and the time factor with three levels (pre-post-follow-up). There was no difference in diastolic blood pressure within groups over time. Nor was there a difference in diastolic blood pressure when age and weight were used as covariates.

Both treatment groups averaged more aerobic exercise points per week than the control group ($p < .05$). No difference existed between treatment groups on this dimension. A significant negative correlation ($r = -.23, p < .05$) between aerobic points and follow-up blood pressure was observed. (Subjects who exercised more tended to have lower follow-up blood pressures).

Most frequent side effects recorded by subjects on the medication side-effect index are listed in Table I and suggest that these can be

significant factors in adherence to continued use of medication in the treatment of this disorder. More than 1/3 of the subjects associated dry mouth, weight gain, thirst, drowsiness, loss of energy, muscle cramps, muscle pain, heart palpitations, sexual difficulty, fatigue, depression, and/or insomnia with their antihypertensive medications.

All subjects in the relaxation group believed that the relaxation exercises were helpful. All subjects in both treatment groups rated the education as helpful and 95% of both treatment groups evaluated the opportunity to talk with other hypertensive patients about their disease in a small group setting as helpful. Feedback from participants suggested that their physicians were perceived as providing insufficient information about the nature and treatment of their disease.

All subjects in the treatment groups also reported feeling better about themselves as a result of participation in the study. Nine of 10 education group subjects reported feeling more relaxed as a result of treatment, while one felt more anxious. All relaxation group subjects reported feeling more relaxed after treatment.

DISCUSSION

Previous studies have documented that behavioral consultation adds to the medical management of hypertensive patients (Kaplan, 1985). It has been suggested that relaxation therapy reduces sympathetic nervous system activation and decreases peripheral resistance in the cardiovascular circulatory system. Both treatment groups experienced a significant decrease in blood pressure during the study. These data provide support for both relaxation training and education in the treatment of patients with essential hypertension. Millon, Green and Meagher (1982) observed that giving health-related information to patients improves treatment compliance. These data also suggest that relaxation therapy may not be a necessary component in the behavior management of patients with essential hypertension, and that patient education may be an important factor worthy of more extensive exploration.

Kanfer (1973) has discussed self-monitoring as a prerequisite to self regulation and control. The requirements of this study that subjects record diet and exercise data may have been an important factor helping them to become more aware of their behavior and thus better able to initiate change. Subjects in the two treatment groups demonstrated a higher aerobic exercise activity level. This appears to have been a result of the education provided these subjects on the health enhancing effects of exercise rather than self-monitoring since all 3 groups recorded daily exercise activity. No intergroup comparison of diet was conducted to quantify these data.

Several subjects had very low pretreatment baseline blood pressures. Eleven had a baseline systolic blood pressure under 130 mm. Hg. and 5 were under 120 mm. Hg. Thirteen subjects had a baseline diastolic blood pressure under 90 mm. Hg. It would be unlikely that these subjects would show any significant decrease in blood pressure

since they began the study at such low levels. The eleven subjects with low baseline systolic blood pressure averaged 120.8 mm. Hg. At follow-up it was 120.3 mm. Hg. The thirteen subjects with low baseline diastolic blood pressure averaged 81.1 mm. Hg. At follow-up it was 85.5 mm. Hg. All these patients were being treated with antihypertensive medications. It would have been better to restrict the study to patients who might be considered less well medically managed as determined by higher baseline blood pressure recordings. Wadden (1948), for example, in a study of the effects of relaxation therapy on hypertension, restricted eligibility to subjects with a baseline systolic blood pressure of at least 130 mm. Hg. or a diastolic blood pressure of 85 mm. Hg. or higher.

Other factors may also have had significance with respect to results obtained. Miller (1974) noted that the treatment of essential hypertension is highly susceptible to placebo effects. The results obtained by both treatment groups may have occurred because of a positive treatment expectancy. Expectancy of therapeutic gain and demand characteristics may have produced a non-specific effect which resulted in a lowering of blood pressure.

From post-test to follow-up decreases in systolic blood pressure occurred in all 3 groups (12.4 mm. Hg. for the education group, 2.1 mm. Hg. for the relaxation group, and 6.4 mm. Hg. for the control group). The failure of the relaxation group to produce a continued significant decrease in blood pressure may have been the result of a failure of subjects to continue practicing their progressive muscle relaxation. Informal feedback at follow-up suggested significant disparity between subjects regarding relaxation. While some practiced it nearly every day, others had done so only rarely during the follow-up period. Compliance for subjects taught self-relaxation techniques is frequently reported to be poor.

Finally, the number of subjects in this study was very small. Reliability of these results would have been greatly enhanced by a larger sample.

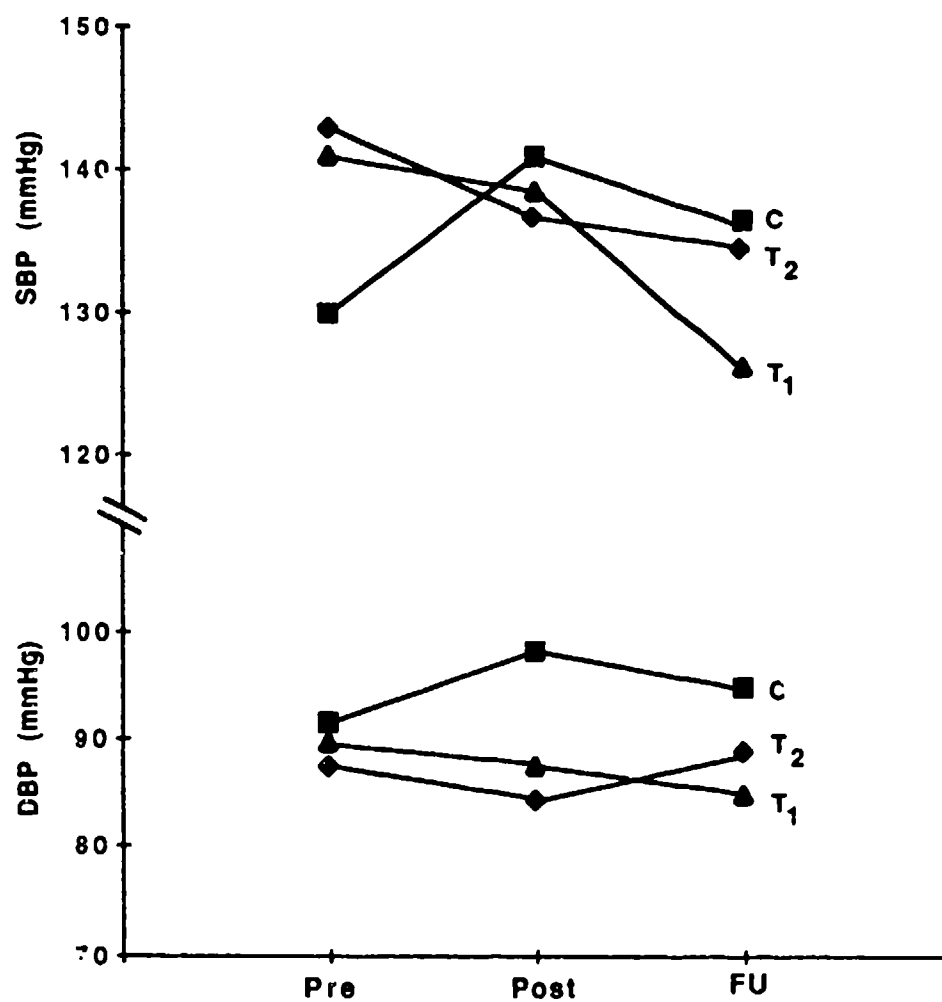


Figure I. Blood pressures for T₁ (Education), T₂ (Relaxation), and C (Control Groups)

Table I

Antihypertensive Medication Side Effects for All Subjects

<u>Side Effect</u>	<u>% of Respondents</u>
Dry mouth	54
Weight gain	54
Thirst	50
Drowsiness	50
Loss of energy	46
Muscle cramps	46
Muscle pain	43
Heart palpitations	43
Sexual difficulty	39
Fatigue	39
Depression	36
Insomnia	36
Headaches	32
Restlessness	32
Sweating	29
Constipation	29
Blurred vision	25
Confusion	21
Skin rash	21
Increased heart rate	21
Flushed face	18
Weight loss	18
Nausea	18
Diarrhea	18
Trembling	14
Dizziness	14
Appetite loss	14
Nightmares	11
All other symptoms	18

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AD-P005 572

EVALUATION OF A COMPREHENSIVE
BIOFEEDBACK/STRESS MANAGEMENT PROGRAM

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Biofeedback and Stress Management programs have gained recent popularity for their applicability to the wide range of stress-related physical and psychological disorders. The present paper describes a structured, comprehensive four-week program involving group sessions, individual biofeedback sessions, and extensive home practice. Emphasis is placed on establishing healthier lifestyles through specific behavioral coping techniques for the physiological, emotional, and intellectual components of the stress response. The goal of the program is to reduce the frequency and severity of one or two clearly identified stress-related symptoms. Methods are detailed for the collection of baseline physiological and psychological data, as well as for subsequent post-treatment program evaluation. Preliminary evaluation results from the first 96 program participants are tabulated, and overall improvement ratings are presented in terms of both physiological and self-rating measures. Presenting characteristics and prognostic indicators for major diagnostic categories are discussed. Suggestions are made for further improvements in the evaluation process.

Psychologists in medical settings are becoming increasingly involved in the treatment of medical patients whose symptoms are inextricably linked to psychological variables. As holistic approaches to medicine gain popularity in medical schools and training programs, an appreciation is developing of the contribution of emotional and behavioral factors to a patient's risk for illness and response to medical treatment. Recent research indicates that psychological intervention can markedly reduce the incidence of physical illness by changing high-risk behaviors, improving medical treatment compliance, and potentially replacing more expensive medical procedures (Yates, 1984). Studies have consistently concluded that the combination of psychological services with medical treatment of physical disorders results in cost savings at least equal to the cost of the mental health treatment (Schlesinger, et al, 1983), and improves the quality and appropriateness of care (Jacobs, 1983). Psychological intervention with hospitalized surgical and heart attack patients resulted in decreases in average recovery time of approximately two days (Mumford, et al, 1982).

The most significant demand upon the medical system may be the area where mental health services can be most effective: the "worried well". It is estimated that 60% of all visits to physicians are due primarily to emotional, rather than physical, problems (Cummings and VandenBos, 1981). Even brief psychotherapeutic intervention with this population was found to result in a 47% reduction in subsequent demand for medical resources (Turkington, 1985). In similar "cost offset" studies, appropriate mental health intervention led to decreases from 5 to 80 percent in use of medical services (Foullette & Cummings, 1967; Goldberg, et al, 1970; Jones & Vischi, 1979; Rosen & Wiens, 1979).

The mental health services offered to achieve these results have varied widely, from traditional general psychotherapy to specific cognitive, emotional, psychophysiological, or behavioral approaches. The common denominators are typically a time-limited, brief therapy approach, and a focus on producing an increased sense of ability to control or cope with the presenting problem. Although the observed health delivery cost savings are assumed to result from the success of these specific interventions, careful program evaluation studies are scarce. Agras (1982) notes that the median length of follow-up for behavior therapy studies is about 4 weeks, compared to 26 weeks for medical studies. He further points

out that only 2% of these studies reported any long-term outcome or studies of maintenance procedures.

DESIGN OF A TREATMENT PROGRAM

The Brooke Army Medical Center (BAMC) Biofeedback/Stress Management Program was designed with the aim of providing cost effective behavioral medicine support to patients with a wide range of medical and psychiatric problems. Patients were encouraged to identify either one or two clearly defined target symptoms. The expressed goal of the program was to reduce the frequency and severity of symptoms, while increasing the patient's sense of control of the symptom(s).

In an effort not to impose a single, universal treatment modality on the diversity of presenting problems, an intensive, multiple-modality, "shotgun" program was designed. Patients were seen in a didactic group setting once a week for four weeks. Individual 30-minute sessions were scheduled twice a week, tailored to the patient's specific symptoms and progress (an expectation of 6-12 sessions was established). Finally, home practice of different techniques was assigned to coordinate with the group and individual sessions. Thus, although all patients were introduced to the same concepts, considerable individualization of treatment was possible.

Conceptually, patients were presented a "stress management" model of the program. As a generic term, "stress" is often less threatening to those patients who are sensitive to being referred to a mental health setting for help with their "physical" problem. Stress was defined as consisting of: a) an external demand; b) an internal sense of inability to meet that demand; and c) important consequences for failing to meet the demand. This model lends naturally to coping techniques aimed at these different components of stress. Underlying these approaches is an explicit psychophysiological interpretation of the role of stress in producing and/or aggravating physical and emotional symptoms.

The resulting group program (Appendix A) is therefore designed to create a conceptual framework where the patient's symptoms are at least partly the result of behavioral, physiological, emotional, and cognitive responses to stress. Each of these responses is then shown to be substantially under the control of the patient by

using specific coping techniques. Finally, strong emphasis is placed on individual responsibility for diagnosis of his own particular stress response, and for prescribing the needed combination of coping responses. Effective application of these coping skills may then lead to a reduction in symptom frequency and severity. Such successful coping has, in fact, been increasingly identified as the critical element in improving physiological functioning and stress responses (Antonovsky, 1979; Henry & Stephens, 1977; Roskies & Lazarus, 1980). The emphasis on personal responsibility for health-producing behaviors is approached through a "wellness" lifestyle orientation (emphasizing self-care, physical fitness, morale, time for self, and control of caffeine, nicotine, drug and alcohol abuse). Even more specifically, patients are encouraged to take personal responsibility for their own active involvement in the program, and for the conscientious practice of the introduced coping techniques.

As indicated above, these coping techniques include a variety of physiological, emotional, and cognitive interventions. Relaxation skills are a prominent part of this training, beginning with home practice twice daily with a relaxation tape. Biofeedback training is incorporated into the individual sessions to reinforce this control over specific indices of physiological arousal. The biofeedback modality chosen depends upon the presenting symptom and upon the patient's performance on the initial physiological profile evaluation. At this initial evaluation, measures are taken of the patient's heart rate, blood pressure, and skin temperature; EMG resting levels and latency response (number of seconds to return to resting level after tensing) are recorded for general facial, upper body, and lower body muscle reactivity. In the absence of a clearly recognized pathophysiological mechanism, the most reactive stress response modality will be used for biofeedback treatment. Once the patient experiences some success in relaxing with the tape and during biofeedback, the concept of the Brief Relaxation Response is introduced. This technique gives the patient an effective way to reduce tension level in a 15 to 60-second period of time. Patients then are assigned to practice this technique twenty to thirty times a day during momentary pauses (e.g. standing in line at the store, on "hold" on the phone, waiting for the toaster to pop, at a red light in the car). The effectiveness of this technique can generally be demonstrated convincingly with EMG biofeedback. Progressive biofeedback training is continued to maintain or quickly recover relaxation during

Increasingly stressful stimulation (e.g. mental arithmetic, assertiveness exercises, and physical tensing).

Other coping techniques are introduced during the group sessions, typically reinforced with handouts and assignments. Understanding and coping with emotional stress is discussed, including specific guidelines for assertiveness and other coping techniques. Rational emotive concepts also are introduced. "Thought stopping" is taught to control non-productive worry and rumination, and these techniques are integrated into the Brief Relaxation Response. Finally, specific interventions are introduced for common problem areas, such as "Type A" behaviors, time management difficulties, and sleep disturbance.

PROGRAM EVALUATION

The effectiveness of the Biofeedback/Stress Management Program was assessed on several different levels, including self-report measures, change in stress-related physiological measures, and use of medical facilities. Data collection was integrated into the routine clinical aspects of the program:

(1) The screening interview included a detailed symptom questionnaire (during which one or two specific symptoms were identified), administration of the Million Behavioral Health Inventory (MBHI), and the initial physiological profile. Where possible, data was collected on all patients who came for screening interviews, whether they made any further contacts or not.

(2) At the end of the fourth group session, patients were asked to complete an honest appraisal of the program. Specific Likert-type rating scales addressed their ability to relax, symptom frequency and severity, and sense of control over their symptoms [Appendix B]. Ratings of the effectiveness of the biofeedback, relaxation training, and group portions of the program also were requested.

(3) At the individual session immediately following the last group meeting, another physiological profile was taken. This session was targeted for practical reasons, due to the rapid fall-off in attendance when the groups were over.

(4) Six months after beginning the program patients received a mail-out questionnaire, identical to the four-week form, again asking for these same self-ratings.

(5) Finally, follow-up reviews of medical records were conducted for all patients for whom complete records were available for the period of six months before to six months

after beginning the program. This six-month time frame was selected to coincide with the follow-up self-rating period, and to minimize the loss of contact over longer periods with this highly mobile population. The medical record review consisted of a simple tabulation of number of contacts with medical services of any type before and after initiating treatment. The decision was made to count all contacts because: a) in practice it was difficult to decide objectively which contacts might or might not be indirectly stress-related, and b) it was assumed that routine medical procedures and unrelated contacts should be randomly distributed.

Patients were excluded from the program only if they were deemed completely unable to benefit from an intensive, very verbally oriented treatment. In effect, this included patients who were psychotic, patients of borderline or lower intelligence, geriatric cases who could not sustain attention, severe alcohol or drug abuse cases, or individuals with poor command of the English language. Over a two year period, only six patients were turned down for admission to the program.

The 96 patients included in this initial evaluation constitute everyone accepted into the first ten iterations of the group program between January 1985 and April 1986. Only two of those patients made no further contact after the screening session.

RESULTS

Table I lists a complete breakdown of the presenting problems endorsed by the 96 patients enrolled in the program. Because each patient was encouraged to specify two problem areas, the list totals 192 complaints. New listings were added whenever a problem was identified by five or more patients.

Table II shows the mean self-ratings pre- and post-program, and at the six-month follow-up point for the four primary treatment goal areas: symptom frequency, severity, control, and relaxation ability. The numbers in brackets reflect the number of patients for whom completed data was available. Missing data generally are due to: a) patients failing to complete the program, and b) the gradual refinement of the data collection process (full information was not gathered on the earliest participants). Table III shows the mean change in self-ratings at the four-week and

six-month evaluation points. To control for the possibility of a favorable bias by the smaller group of respondents to the six-month follow-up (who may represent a more motivated or cooperative sub-group), the four-week self-rating change scores are also shown in Table III for just this sub-group. Finally, patients were asked to rate the helpfulness of the biofeedback, relaxation training, and group components of the program; these results are summarized in Table IV.

These self-ratings consistently reflect therapeutic changes in the desired direction, and maintenance of these improvements six months after treatment. The patients responding to the six-month follow-up did not differ significantly from the non-responders in their self-ratings at the 4-week evaluation point. This tends to rule out any bias in follow-up assessment due to respondent selection factors.

Physiologically, the expected improvements were noted in ability to control stress reactivity. Both EMG and skin temperature group means showed significant change in the direction of greater ability to relax (EMG patients showed an average decrease of 3.29 microvolts, with 53 cases; thermal feedback patients increased skin temperature by an average 6.09 degrees Fahrenheit, with 17 cases). In fact, only five EMG patients and one skin temperature patient showed no improvement (due, in most cases, to ceiling effects in training patients who already had good relaxation skills).

Finally, complete medical records were audited on 32 patients. Of the remaining 64 records, 14 did not cover the required period of six months before enrollment to six months after, 7 were checked out to other clinics, and the remaining 43 were not maintained in the BAMC medical files. The number of pre- and post-treatment medical visits was tabulated for each of the 32 patients, and group total visits and mean visits were calculated (Table V). An average cost per outpatient visit of \$54.00 was then calculated using cost estimates from the BAMC Comptroller's Office for five of the most frequently visited clinics (Emergency Room/Acute Care Clinic, Internal Medicine, Cardiology, Gastroenterology, and Gynecology). As can be seen in Table V, the average number of medical visits in the six months following the Biofeedback/Stress Management Program shows a 43% drop (from 8.9 to 5.1 visits per patient) over the six months prior to treatment. This translates into a decrease in average medical treatment

costs from \$480.60 to \$275.40, or \$205.20 per patient over this six month period. Total Psychology Service time involvement per patient was then calculated at representative hourly salary levels. The average patient cost for four group sessions, four biofeedback sessions (the average number actually attended across the entire group), and one evaluation, was approximately \$30.00. Therefore, the net cost offset per patient came to \$175.20, or a 36% net medical cost savings per patient attending the program.

Although it is difficult, without a carefully controlled study, to assess the effectiveness of different components of a multi-modal treatment program, preliminary analyses do suggest several interesting correlational trends. Physiological change toward decreased stress reactivity after biofeedback correlated significantly with decreased use of medical facilities after treatment (Pearson's $r = -.413$, $p = .05$ for EMG; $r = .903$, $p = .003$ for thermal). This physiological improvement also correlated with the number of biofeedback sessions attended ($r = .310$, $p = .012$ for EMG; $r = .416$, $p = .048$ for thermal). Significant correlations were also obtained between the number of biofeedback sessions attended and self-ratings of subsequent ability to relax ($r = .412$, $p < .001$ after 4 weeks; $r = .370$, $p = .014$ after 6 months), and with self-rated change in symptom frequency ($r = -.222$, $p = .045$ after 4 weeks, $r = -.300$, $p = .048$ after 6 months). The number of group sessions attended did not correlate with any outcome measures, probably due to ceiling effects (average attendance was 2.94 of the 4 sessions).

In an effort to evaluate potential prognostic indicators from the initial evaluation, results of the Millon Behavioral Health Inventory (MBHI) were correlated with the different change measures. Only Scale 7 (Respectful) was found to correlate significantly with a post-treatment reduction in use of medical facilities ($r = .409$, $p = .021$). This same scale also correlated with decreased muscular stress reactivity after EMG biofeedback ($r = -.371$, $p = .017$). Patients who rated higher on Scale A, Chronic Tension, also showed greater improvement with EMG biofeedback ($r = -.300$, $p = .045$). Interestingly, Chronic Tension, Sensitivity (Scale 8) and Somatic Anxiety (Scale F) were all negatively correlated with improvement after skin temperature biofeedback ($r = -.470$, $p = .028$ for both Chronic Tension and Sensitivity; $r = -.432$, $p = .042$ for Somatic Anxiety). This suggests it is more effective for these patients to experience the more immediate sense of control

over physical functioning often achieved with the EMG biofeedback. More prolonged self-monitoring or frustration may actually increase their anxiety level.

DISCUSSION

Initial results on the effectiveness of the Biofeedback/Stress Management Program look very favorable. Self-report measures reflected clinically significant improvements in symptom frequency, severity, and control, and in ability to relax. Little change in these follow-up ratings is noted six months after treatment, suggesting that the subjective sense of improvement is maintained over time. There was no evidence that this long-term positive rating was due to a respondent selection bias toward more motivated or cooperative patients. The physiological changes recorded during biofeedback are also in the directions suggested by the self-ratings, and tend to reinforce the hypothesis that improved coping techniques will lead to less physiological stress reactivity. Finally, there is a highly significant decrease in the use of outpatient medical facilities by program participants during the six months following involvement in the program.

Because of the generally small numbers of patients in each diagnostic category, it is not possible to make definitive statements about different referral groups. Since data are still being collected, it is hoped that such analyses may be possible at some future date. However, it is possible to separate those referring problems identified by the patient as "medical" from those identified as primarily "psychological." There is little difference between the two groups either in incidence of pre-treatment medical contacts, or in reduction of post-treatment contacts. These results tend to validate the program's holistic approach to health behavior and the inclusion of patients with widely varied presenting symptoms.

This study was designed as an on-going clinical evaluation of a multi-modal program treating a wide variety of patient problems. Although there is an absence of experimental controls, it does demonstrate the clinical and financial efficacy of a realistic treatment program in a typical medical setting. Future research will aim at improving prognosis- and decision-making from data gathered in the initial evaluation, assessing greater numbers of patients in different diagnostic categories, refining the physiological indices used for both clinical and data

collection purposes, and studying medical cost-offset trends over longer periods of time.

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TABLE I

FREQUENCY OF
PRESENTING PROBLEMS

Accident/Injury	4	Heart Attack	3
Alcohol/Drug	1	Heart Disease	4
Allergies	0	High Blood Pressure	11
Asthma	1	Itching	0
Arthritis	11	Kidney Problems	0
Back Pain	11	Nerves	9
Cancer	1	Overweight	5
Chest Pain	5	Sexual Problems	3
Diabetes	0	Sleep Difficulty	9
Dizziness	2	Stomach Problems	7
Fatigue	3	Stress/Tension	51
Female Problems	0	TMJ	4
Headaches	15	Other	32

TOTAL=192*

*List includes two presenting problems for each of 96 patients.

TABLE II
MEAN PRE- AND POST-PROGRAM LIKERT SCALE SELF RATINGS

	<u>Pre-</u> <u>Program</u> [60]*	<u>Post-</u> <u>Program</u> [60]	<u>6-Month</u> <u>Follow-up</u> [40]
Relaxation Ability (1)	2.73	5.44	5.39
Symptom Frequency (2)	5.89	4.59	4.23
Symptom Severity (3)	5.95	4.18	4.09
Symptom Control (4)	2.57	4.82	4.58

NOTES:

*Number of patients completing evaluation.

(1) 7-point Likert scale: 1=not at all; 7=very well.

(2) 8-point Likert scale: 1=less than 1/mo; 8=constantly.

(3) 7-point Likert scale: 1=very mild; 7=very severe.

(4) 7-point Likert scale: 1=not at all; 7=very well.

TABLE III
MEAN CHANGE IN SELF-RATINGS
AT FOUR-WEEK AND SIX-MONTH FOLLOW-UP

	<u>Post-</u> <u>Program</u> [60]*	<u>Post-</u> <u>Program**</u> [35]	<u>6-Month</u> <u>Follow-up</u> [35]
Relaxation Ability (1)	+2.71	+2.71	+2.77
Symptom Frequency (2)	-1.31	-1.43	-1.81
Symptom Severity (3)	-1.83	-1.68	-2.03
Symptom Control (4)	+2.25	+2.40	+2.37

NOTES:

*Number of patients completing evaluation.

**Calculated only for those patients who completed the six month follow-up questionnaire.

(1) 7-point Likert scale: 1=not at all; 7=very well.

(2) 8-point Likert scale: 1=less than 1/month; 8=constant.

(3) 7-point Likert scale: 1=very mild; 7=very severe.

(4) 7-point Likert scale: 1=not at all; 7=very well.

TABLE IV
MEAN SUBJECTIVE RATINGS OF PROGRAM COMPONENTS*

Biofeedback	6.07
Relaxation Training	5.58
Group	5.78

* (Rated on a 7-point Likert scale: 1=no help; 7=very helpful).

TABLE V
OUTPATIENT MEDICAL VISITS
PRE- AND POST-TREATMENT
(n=32 patients)

	6 Months Pre- Program	6 Months Post- Program	Change
Total Visits	285	163	-122
Average Visits/Pt.	8.9	5.1	-3.8
Average Cost/Pt.	\$480.60	\$275.40	-\$205.20

APPENDIX I :

BIOFEEDBACK/STRESS MANAGEMENT

SESSION I

I RATIONALE & METHOD

- A. Stress→physical & emotional symptoms
- B. Improving coping styles reduces symptoms
- C. "Shotgun" approach: change produced at many levels
 - 1. Physical "reeducation" of body's stress response
 - a. relaxation tapes
 - b. brief relaxation response
 - c. biofeedback (demonstrate)
 - 2. Emotional reaction to stress
 - 3. Beliefs, expectations, & interpretations that create stress
 - 4. Lifestyle factors
 - 5. Specific coping techniques

D

II OVERVIEW OF PROGRAM

- A. Group Sessions: 1x/wk, 4 weeks
- B. Relaxation Tapes: 2x/day, at home (TRADE)
- C. Biofeedback Sessions: 2x/wk, individual scheduled 30 min.
- D. Home Practice: coping skills & relaxation response
- E. Program Participation:
 - 1. Goal oriented
 - 2. Terminate by agreement
 - 3. Renew at any time
 - 4. Responsibility for self change
 - 5. Program evaluation at end
- F. Serious problems/crises→ask for additional help/referral

III DEFINITION OF STRESS: A substantial imbalance between demand and response capability, under conditions where failure to meet demand has important consequences.

- A. External demand factor.
- B. Internal sense of inability to meet demand.
- C. Important consequences of failure to meet demand.

IV PHYSIOLOGICAL IMPACT OF STRESS

- A. Arousal Response - "Fight or Flight" Response - (Sabre-tooth tiger example) ANS (SNS)→maximum use of stored energy.
 - 1. Adrenaline in blood→releases blood sugar in liver.
 - 2. Skin and gastro blood vessel constriction; dilated in muscles.
 - 3. Faster, deeper breathing→↑O₂.

4. Faster heartrate.
5. Pupils dilate.
6. Acid in stomach.
7. Hyperalert, hyperreactive.
- B. Stages of Arousal Response
 1. Alarm & mobilization.
 2. Resistance - optimal bio-adaptation stage for dealing with brief demands.
 3. Exhaustion - when arousal response continues.
 - a. characteristic of many chronic social stresses.
 - b. fatigue->individual differences in organ system affected (e.g., ulcer, ↑ blood pressure, headaches, back pain, TMJ, emotional distress).

V. ASSESSING STRESS LEVELS:

A. Environmental Stress

- * 1. Life Change Questionnaire
 - a. stress is cumulative over time.
 - b. impact on health: infection, accident, recovery, medications, complications, prognosis.
 - c. stress: good & bad life changes.
 - * d. Coping hints for life change stress.
- 2. Change as stressor: frustration, threat, unpredictability, disorientation, lack of habitual response (e.g., 1st time driving car/driving in England).

B. Personal Stress

- * 1. Stress Danger Signs
- 2. Individual differences
- 3. May first be noticed by others.

VI. PREPARING FOR STRESS:

Lifestyle -> Maximum Stress Tolerance

A. Physical Fitness.

1. Exercise (cardio-vascular) builds endurance.
2. Stress->body works more efficiently, fatigues less quickly.

B. Sleep (dreaming)

1. REM sleep every 45 minutes.
2. Body's most important system to handle stress.
3. [Research: dream deprivation effect over time]

C. Caffeine

1. Coffee, tea, soft drinks, chocolate
2. Acts as stimulant, same as arousal response.
3. Drug; effects: irritability, fatigue, sleep loss, headaches, ↓ concentration, nervousness.
4. Can be toxic; withdrawal effects.
5. Intelligent moderation under stress; insight.

D. Nicotine

1. Addicting; withdrawal affects
2. Chronic health effects
3. Powerful stimulant - strain on cardiovascular system.

E. Alcohol

1. REM sleep suppressant - interfere's with body's natural stress coping mechanism
2. Most likely to be abused during periods of stress
3. Addicting; withdrawal effects

F. Morale & Self-care

1. Take care of self, or you will soon have little left to give during stress
2. Time for self: away from demands (vacation, walking, shopping, hobby, etc.)
3. Responsibility to identify & treat stress in self

G. Control & Predictability

1. Stress → feel loss of control of life
2. Priority: invest time & energy in some areas where you have control (e.g., routine activities, hobbies, solitary pursuits)

H. Micro-management

1. Normal response to loss of control: try harder to regain control.
2. Often try to impose control on others → resentment, passive-aggression, resistance. (e.g., nagging kids when tired, riding employees before I.G.)
3. Recognize; "back off"; delegate.

REMINDERS

1. Replacement tapes
2. Practice relaxation 2x/day
3. Schedule biofeedback sessions

BIOFEEDBACK/STRESS MANAGEMENT

SESSION II

I REVIEW OF PROGRESS

- A. Experience with tape?
 - 1. Restlessness/mind wandering--> keep trying
 - 2. Emphasis on self-produced relaxation
 - 3. Reminder: TRADE tapes
 - 4. Encourage trying different tape exercises
- B. Experience with biofeedback?
 - 1. Understand how it works?
 - 2. Questions?

II BRIEF RELAXATION RESPONSE

- A. Rationale
- B. Research: rapid mastery, long-term gain
- C. DEMONSTRATE:
 - 1. "Time Out"
 - 2. Two deep breaths
 - 3. Change breathing--> use diaphragm: deep/slow
 - 4. Relax muscles
 - 5. Calm
- D. Progressive effects of repeated practice
- E. Homework: 20-30x/day (e.g., when in line, answering phone, at stoplight, etc.)

III EMOTIONAL STRESS

- A. Emotional stress response similar to (part of) physiological stress response:
 - 1. Automatic, innate behavior reaction.
 - 2. Rapid dramatic change.
 - 3. Ideally adapted to arousal--> recovery.
 - 4. Prolonged emotional stress--> depression, physiological stress reactions.
- B. Emotions:
 - 1. Are a natural part of human responding.
 - 2. Are always appropriate, no matter what you feel.
 - 3. Are idiosyncratic
 - 4. Are not rational or logical.
 - 5. Are part of the stress situations to cope with.

IV COPING WITH EMOTIONAL STRESS

- A. Accept your feelings:
 - 1. Do not need permission or explanation.
 - 2. Others may notice changes first.
 - 3. Problem is not having feelings, but how you express them.
 - 4. Feelings may be complex, difficult to label--> accept what you feel.

5. Ambivalence: often feel most strongly about those closest to us.
6. Goal→ experience feelings; they will not hurt you.
- B. Talk to others:
 1. Effective in "working through" feelings.
 2. Talk about own feelings ("I" statements), not about situations, beliefs, etc.
 3. Results→ physiological changes (e.g. ↓ B.P.)
 4. Results→ interpersonal closeness & understanding, not alienation.
 5. Talk to anyone, different people
 6. Goal→ experience feelings as acceptable to others.
- C. Find other outlets:
 1. Exercise
 2. Safe, physical expression of anger (e.g., punching bag, pillow)
 3. Set specific time period to "have" your feelings (e.g., cry, play music to match mood)
 4. Fantasy (distinction between thought & act)
 5. Writing (letters, journals, "imaginary" speech)
- * D. Serenity Prayer→ goal of program
 1. Cope with stresses you can't change
 2. Change stresses you can
 3. Recognize difference

V ASSERTIVENESS

- A. Change situation causing emotional stress:
 1. Maximize chance of cooperation from others
 2. Allow healthy expression of own feelings & wants
- * B. DESC Script
 1. Basic model of communication→ mutual understanding
 2. Common system for problem resolution (e.g., labor negotiations)
 3. Defines problems as shared difficulty, aims for mutual understanding & mutually satisfactory solution.
 4. Communicates respect for viewpoint of other person.
- C. DESCRIBE
 1. Most important step: if no agreement, no communication.
 2. Check→ does other agree with description? If not, go back again.
 3. Where most arguments start: different perceptions of situation.
 4. Be objective; describe behaviors.
- D. EXPRESS
 1. Own your feelings ("I" statements).
 2. Establishes importance of request without blaming.
 3. Healthy outlet, even if no cooperation.
 4. Avoid using "I feel..." for "I think..."
- E. SPECIFY
 1. Initial bargaining position: what do you want?
 2. Be specific, reasonable, concrete.
- F. CONSEQUENCES
 1. What "sells" the request.
 2. Positive payoff for both sides.
 3. Avoid threats, at least initially.
- G. Dealing with resistance.
 1. Make uncooperative behavior subject of new DESC script.
 2. Be persistent; stick to your message; don't be baited.
 3. Elicit DESC script from others through leading questions.

4. With repeated resistance, you may escalate to clearly defined negative consequences.
 5. If no cooperation:
 - a) other person "owns" the problem.
 - b) you have expressed self in healthy manner.
 - c) may have indirect benefits (fewer future problems, better understanding, more respect).
- H. Applying DESC script:
1. Diagnose own failures.
 2. Practice while "replaying" stressful episodes (e.g., at night).
 3. Start with less stressful situations.
 4. Use relaxation skills to help stay calm.
 5. Use to express feelings other than anger as well.

REMINDERS

1. Brief relaxation response 20-30x/day.
2. Continue with relaxation exercises (vary).
3. Schedule biofeedback sessions.

BIOFEEDBACK/STRESS MANAGEMENT

SESSION III

I REVIEW OF PROGRESS

- A. Brief relaxation response.
- B. Biofeedback.
 - 1. Sense of control.
 - 2. Expect 6-12 sessions.
- C. Begin deemphasizing tapes.
- D. Questions/problems with DESC script?

II EFFECTS OF COGNITION ON STRESS RESPONSE

- A. Memories, thoughts, beliefs → physiological stress reaction.
- B. "Replaying" - ruminating about upsetting experience prolongs & maintains emotional response.
- C. Cycle: angry thoughts → angry feelings → angry behaviors → negative social response → angry feelings → angry thoughts.
- D. Distinction between primary and secondary emotions:
 - 1. Primary - immediate emotional response to external stressor (hit by someone → anger); automatic physiological response.
 - 2. Secondary - emotional response to own thoughts, beliefs, and memories (remember doing something bad → guilty). Controllable!

III THOUGHTS AS INTERNAL VOICE

- A. Self talk - thinking is a primarily verbal process; uses words and "internal speech."
- B. Thinking is not an automatic process; the thoughts and words are your own.
- C. Negative self-talk → anxiety, self-doubt, inadequacy ("you are going to blow it").
- D. "Best Friend Rule" - don't say things to yourself you would not tolerate from your best friend.
- E. Think positive - "psych" self up; be own coach & best friend ("you can do it").

IV IDENTIFY IRRATIONAL IDEAS

- A. Concept of Rational Emotive Therapy: "It is not the event, but rather our interpretation of it, that causes our emotional reaction."
- B. Goal of RET:
 - 1. Reduce anxiety (self-blame).
 - 2. Reduce hostility (blame of others & world).
 - 3. Establish method of self-assessment to maintain minimum anxiety & hostility.
- * C. Ten Irrational Ideas. (handout)
 - 1. Beliefs that cause you to feel & behave badly.
 - 2. Endlessly repeated to self to maintain problems.
 - 3. Often learned very early in life.
 - 4. Never challenged.
- * D. Disputing Irrational Ideas. (handout)
 - 1. Emotional disturbance can be overcome by continually observing, questioning, and challenging own beliefs.

2. Need to actively work & practice changing irrational beliefs with counterpropagandizing.
3. Tackling specific beliefs. (handout)

* V OTHER COGNITIVE DISTORTIONS (handout)

- A. "Should" statements.
- B. Implying motives.
- C. Confusing behavior with worth of the person.

VI THOUGHT STOPPING

- A. Part of Brief Relaxation Response.
- B. Goal: interrupt ruminative negative thoughts/preoccupations.
- C. Method: replace negative thoughts with:
 1. Positive thoughts
 2. Pleasant imagery
 3. "Blank" mind (ideal - meditation).
- D. Neuropsychology: left (verbal) hemisphere vs right (imagery) hemisphere arousal.
- E. Techniques:
 1. Auditory interference: listen to own thoughts, and :
 - a. ↓ volume
 - b. change voice speed
 - c. interrupt every 3-5 seconds with "STOP" or mantra
 2. Imagery interference: imagine thoughts appearing as words on black-board, and:
 - a. superimpose large word "STOP" every 3-5 seconds, then start again.
 - b. chase words with eraser.
 - c. write slowly.
 3. Substitute pleasant thoughts/images.
- F. Be patient & persistent.
- G. If too much physical arousal, may need to combine with exercise, other outlets.

REMINDERS

1. Brief relaxation response 20-30 x/day.
2. Integrate with "thought stopping" as needed.
3. Decrease emphasis on relaxation tapes.
4. Schedule biofeedback sessions.

BIOFEEDBACK/STRESS MANAGEMENT

SESSION IV

I REVIEW OF PROGRESS

- A. Thought Stopping.
- B. Brief Relaxation Response
- C. Biofeedback/general ability to relax.
- D. DESC script/RET concepts
- E. Other questions?

* II HUMAN RIGHTS

- A. Asserts responsibility for own life, beliefs, feelings, & wishes.
- B. Granted only by yourself.
- C. Can choose not to exercise any rights.

* III GOALS OF A MENTALLY HEALTHY LIFESTYLE

- A. Happiness/mental health is not simply an absence of problems.
- B. Results from active, ongoing efforts.
- C. Freud's definition: "to love & to work."

IV HIGH STRESS PERSONALITIES

- * A. Type A Behavior (handout)
 - 1. Successful individuals
 - 2. Link to health risk
 - 3. Role of anger
 - 4. Goal: manage stress-producing behaviors, not change personality
- B. Type E Behavior - female version of Type A.
 - 1. "Everything to everyone" - high standards as housewife, mother, employee, etc.
 - 2. Chronic fatigue, depression, inadequacy.
 - 3. Role of guilt.
 - 4. Goal: resolve unrealistic expectations, sex role inequities.

* V TIME MANAGEMENT

- A. Organize
- B. Prioritize
- C. Use your biorhythms, pace yourself; tackle big projects when you are "up."

** VI STRETCHING

- A. Dissipates & relieves tension.
- B. Good release for inactive periods.
- C. Can be done anywhere.
- D. Good when more vigorous exercise is not possible.

VII SLEEP DISTURBANCE

- A. If you cannot get to sleep:

1. Get more exercise during the day.
2. Cut down on caffeine.
3. Leave last hour before bed for quiet time: no vigorous activity, interpersonal arguments, violent TV shows, etc.
4. Use bed only for sleeping; not for eating, reading, watching TV, etc.
5. Don't "force" sleep; allow body to rest quietly → you will get the rest you need.
6. Don't be a clock watcher - turn it to wall.
7. If anxious or ruminating, use coping techniques (plan DESC script, use brief relaxation response, thought stopping, etc.)
- B. If you wake up and cannot get back to sleep:
 1. All of above
 2. Are you depressed? Seek support.
- C. If you sleep too much, or feel tired all the time:
 1. Exercise
 2. Medical checkup
 3. Consider depression.

VII SUMMARY OF TECHNIQUES

- A. Take active control of you stress response.
- B. Use what works for you.
- C. Seek professional help when things get out of hand.

REMINDERS

1. End of group program.
2. Continue biofeedback → 6-12 sessions, until individual goals are reached.
3. Free follow-up sessions as needed in future.
4. Unresolved problems, questions → contact staff member.

EVALUATION

1. Be honest & objective.
2. Feedback will be used to improve program.
3. Six-month questionnaire to follow; encourage honest response.

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APPENDIX II

BIOFEEDBACK/STRESS MANAGEMENT PROGRAM One-Month Follow-Up Questionnaire

This questionnaire was designed to assist the staff of the Clinical Psychology Service to evaluate the effectiveness of the Biofeedback/Stress Management Program. Please answer the questions on both sides of the questionnaire as honestly as possible. Place a circle around the appropriate number using the rating scale of one to seven. One of the physical symptoms that you identified as a focus of concern was _____.

- | | | | | | | | |
|---|---|---|---|---|---|-------------------|---|
| 1. Was the biofeedback training helpful? | 1
Not helpful | 2 | 3 | 4 | 5 | 6
Very helpful | 7 |
| 2. Was the relaxation training helpful? | 1
Not helpful | 2 | 3 | 4 | 5 | 6
Very helpful | 7 |
| 3. Were the group sessions helpful? | 1
Not helpful | 2 | 3 | 4 | 5 | 6
Very helpful | 7 |
| 4. How effectively could you relax before this program? | 1
Not at all | 2 | 3 | 4 | 5 | 6
Very well | 7 |
| 5. How effectively can you relax now? | 1
Not at all | 2 | 3 | 4 | 5 | 6
Very well | 7 |
| 6. How often did your physical symptom occur before this program? | <div style="display: flex; justify-content: space-between;"> <div> 2+ times per day
2/3 times per week
2/3 times per month
less than 1 time per month </div> <div> constantly
1 time per day
1 time per week
1 time per month </div> </div> | | | | | | |
| 7. How often does your physical symptom occur now? | <div style="display: flex; justify-content: space-between;"> <div> 2+ times per day
2/3 times per week
2/3 times per month
less than 1 time per month </div> <div> constantly
1 time per day
1 time per week
1 time per month </div> </div> | | | | | | |
| 8. How severe was your physical symptom before this program? | 1
Very mild | 2 | 3 | 4 | 5 | 6
Very severe | 7 |
| 9. How severe is your physical symptom now? | 1
Very mild | 2 | 3 | 4 | 5 | 6
Very severe | 7 |
| 10. How effectively were you able to control your physical symptom before this program? | 1
Not at all | 2 | 3 | 4 | 5 | 6
Very well | 7 |
| 11. How effectively are you able to control your physical symptom now? | 1
Not at all | 2 | 3 | 4 | 5 | 6
Very well | 7 |
| 12. Overall how helpful was this program to you? | 1
Not helpful | 2 | 3 | 4 | 5 | 6
Very helpful | 7 |

Patient's Identification:

Clinical Psychology Service
ATTN: HSME-SYO
Brooke Army Medical Center
Fort Sam Houston, Texas 78234-6200

PSYCHOLOGICAL ASSESSMENT OF FATIGUE IN A MEDICAL SETTING

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Fatigue is the seventh most common complaint in ambulatory medical care. Little research has been done, however, with the few available studies being retrospective and uncontrolled. The present study examined 102 fatigued patients presenting at two adult ambulatory primary care clinics at a teaching hospital. An additional, 26 non-fatigued control subjects (CONT) were drawn from the same population, and matched demographically with 26 subjects from the fatigue group (FATG). Detailed historical, physical, laboratory, and psychometric data were gathered, including two fatigue scales (Montgomery; Cardenas) the Beck Depression Scale (BDI), the Holmes Social Readjustment Rating Scale (SRRS), the Modified Somatic Perception Questionnaire (MSPQ), the Millon Behavioral Health Inventory (MBHI), and the Sickness Impact Profile (SIP). Discriminant analysis indicated that psychometric and functional scales best discriminated between FATG and CONT patients. The BDI and MSPQ were each clinically elevated in over 50% of FATG, versus less than 10% of CONT. According to these scales, depression and/or somatic anxiety was present in 80% of FATG, versus 12% of CONT. FATG exhibited global dysfunction as measured on the SIP, with significantly higher scores than CONT on total score and on 13 of the 14 subscales. Stressful life events, as reported in the SRRS, were not more common in FATG than CONT. History, physical exam, and laboratory testing did not discriminate between the two groups. Neither SIP nor psychometric scores were related to duration of fatigue, gender, age, or education. One-way and two-way ANOVAs were used to study selected dependent measures. Clinical implications and directions for further research are discussed.

Fatigue is the 7th most common complaint in outpatient medical settings. Despite its frequency it has rarely been studied, and usually in retrospective and uncontrolled studies. Medically, chronic fatigue is often seen as a "soft sign", appearing either secondary to an underlying organic illness, or as a result of psychosocial factors. In the absence of physical findings, depression or other psychological problems are often assumed to be present, even though this may be denied by the patient. Formal psychological evaluation generally is not performed to document this presumed psychopathology.

This research was designed as a prospective study to determine the prevalence of chronic fatigue, the psychological and behavioral characteristics of fatigued patients, the usefulness of history, physical examination, and laboratory testing in assessing fatigue, and the one-year outcome of patients with fatigue. A three-phase study was performed, consisting of a screening survey, a thorough fatigue clinic evaluation, and a one-year follow-up.

METHOD

On six 3-day periods, all 1159 patients seen in either of the two adult ambulatory primary care clinics at Brooke Army Medical Center (BAMC) were surveyed about the presence or absence of fatigue, medical and demographic information, and their willingness to participate in a study. Fatigue was described as a "major problem" by 276 of the patients (24%). Of these, 102 patients agreed to participate in an extensive evaluation in a Fatigue Clinic. The 174 nonparticipants consisted of 98 who refused and 76 who were excluded because either their fatigue had been present for less than 30 days or they had one of a number of explicitly defined medical or psychiatric illnesses. There were no significant differences between participants and nonparticipants with respect to demographics, number of medications and illnesses, and fatigue scores. Demographic characteristics of the fatigue group are summarized in Table I. Of the 102 fatigued patients, 26 (FATG) were matched demographically to 26 non-fatigued controls (CONT). The FATG did not differ significantly from the larger fatigue group on any measure.

Fatigue Clinic evaluation of both fatigue and control groups included historical, psychometric, physical, and laboratory data. A variety of psychological assessment devices were used, including two measures of fatigue: The Montgomery scale (consisting of 5 true or false questions; Montgomery, 1983), and the Cardenas scale (which asks the patient to quantify on a 4-point ordinal scale how tired they are at three times during the day: morning, noon, and bedtime; Cardenas & Kutner, 1982). The Sickness Impact

Profile (SIP) was designed to assess functional impairment due to illness, covering 12 categories such as eating, sleeping, work, recreation, ambulation, and social interaction (Bergner, et al, 1981). Overall functioning is expressed either as a total score, or in summary scores for psychosocial and physical functioning. The Millon Behavioral Health Inventory (MBHI) is a 150-item test designed for the assessment of physically ill populations (Millon, 1982). It consists of eight basic "coping style" scales derived from Millon's (1969) theory of personality, and six "psychogenic attitude" scales reflecting psychosocial stressors found in the literature to precipitate or exacerbate physical illness. The Beck Depression Inventory (BDI) is a 20-item screening questionnaire used extensively in clinical research (Beck, 1972). The Modified Somatic Perception Questionnaire (MSPQ) asks the patient to rate from 0 to 3 the degree to which he suffers from 13 frequent somatic symptoms such as dizziness, stomach disorders, and weakness (Main, 1967). The Holmes Social Readjustment Rating Scale (SRRS) is a numerically weighted checklist of 43 common stressful life events, such as marriage, divorce, and job changes (Holmes & Rahe, 1967). Physical examination included laboratory tests such as urinalysis, complete blood count, chemistry panel, chest x-ray, monospot, thyroid function tests, and stool hemoccults. One year follow-up is ongoing to determine outcome in terms of fatigue, new illnesses, and utilization of health services.

RESULTS

The prevalence of fatigue as a presenting problem (24%) was confirmed. The median duration of fatigue was 3.3 years, with 83% reporting feeling tired every day. A majority (78%) had told a previous physician of their fatigue, and 34% were worried about the possibility of serious underlying illness. Prevalence was not affected by age or race, but fatigue was more frequent in females than males (29% vs 19%, $p < .0001$). Patients were much more likely than physicians to feel there was an organic basis to their fatigue (46% vs 23%) and less likely to consider a psychological origin (14% vs 36%).

Table II shows the results of the comparison of FATG and CONT groups on the different psychometric and demographic variables investigated. Analysis of variance demonstrated significant differences between fatigued and non-fatigued patients on every psychometric instrument except the SRRS. Stressful life events, as reported on the SRRS, were not more common for FATG than CONT. There were also no significant differences between the two groups in age, years of education, occupation, work status, marital status, living arrangement, or number of other people in the home. It is also notable that smoking, alcohol use, and

sleep disturbance were actually more common in the CONT than the FATG group.

Perhaps most important was the absence of any significant differences between FATG and CONT on history, physical exam, or laboratory testing. Despite this lack of physical findings, the mean SIP score of 10 for the FATG is similar to that reported for hyperthyroidism and other medical illnesses. This level of global dysfunction for the FATG is also reflected by significantly higher mean scores than CONT on 11 of the 12 SIP subscales, and all three summary scores. Although psychosocial dysfunction was greater, there were also significant differences in the categories of physical functioning (Table III). Neither SIP nor psychometric scores correlated with duration of fatigue, gender, age, or education. The MBHI also showed significant mean differences between FATG and CONT on 9 of the 14 primary clinical scales (Table IV).

Discriminant analysis indicates that group membership could be correctly discriminated for 92.3% of the patients by using the BDI, MSPQ, and MBHI Scale E (Social Alienation--level of perceived lack of family and friendship support). Regression analysis also indicates the prominence of the BDI and MSPQ in predicting group membership (Table V). In fact, the BDI and MSPQ each scored in the clinically significant range with over 50% of FATG, versus less than 10% of CONT. According to these scales, depression and/or somatic anxiety was present in 80% of FATG, versus 12% of CONT. There were no significant interaction effects between the BDI and MSPQ scores. The MBHI correlated with and confirmed the BDI, MSPQ, and SRRS, with higher scores than controls on all 6 psychogenic attitude scales. However, MBHI was less clinically useful by itself in discriminating between the two groups. Only 35% of the fatigued patients had clinically significant elevations on MBHI scales reflecting somatic anxiety, depression, or stress.

DISCUSSION

Several points should be made regarding the generalizability of these findings. In this study, fatigue was detected by survey, rather than by patients presenting with it as a chief complaint. Although this raises the question of whether incidental or trivial fatigue was solicited, an attempt was made to include only patients identifying fatigue as a major problem. These patients had usually reported fatigue to a prior physician, and many were concerned about the possibility of a serious illness. If anything, this population was weighted toward chronic fatigue, with a median duration of four years. The entry requirements that fatigue be present for at least 30 days probably excluded patients with brief viral illnesses and other self-limited fatiguing conditions. Major organ

diseases that might contaminate the analysis were also intentionally excluded.

Results support the view that fatigue, as a presenting medical symptom, is primarily related to psychosocial variables. Of particular interest, 80% of the fatigued patients may be clinically identifiable through the use of very brief scales measuring depression and somatic anxiety. Results also consistently emphasize that fatigue is not a trivial complaint, but a significant problem with profound impact on the physical, emotional, and behavioral well-being of the patient.

It cannot yet be asserted that depression and anxiety are causative factors in producing fatigue. The statistical relationships indicated in this study do not necessarily rule out fatigue as a purely physical entity. A physiologically-based fatigue could mimic the "vegetative signs" of depression, or produce physiological changes which could cause serious concern to the patient. However, the consistent and powerful findings on virtually every psychometric instrument, combined with the absence of any significant physical, laboratory, or demographic differences, strongly implicates the role of emotional factors in the clinical presentation of chronic fatigue.

Many recent studies have indicated that as many as 60% of all outpatient ambulatory medical visits may be prompted by psychological, rather than physical, reasons. The notable prevalence of fatigue in the present study tends to confirm the importance of these psychological variables. The identification and appropriate treatment of such problems in a medical setting could result in significant cost savings by reducing demand for medical services. Results from the one-year follow-up may help clarify the relationship of chronic fatigue to the development of new illnesses and the use of medical facilities. In addition, appropriate psychotherapy may offer far better potential for reducing the human suffering and functional disability accompanying chronic fatigue. The efficacy of such psychotherapeutic interventions with fatigued patients should be a major focus of future research in this area.

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TABLE I
DEMOGRAPHIC CHARACTERISTICS
OF FATIGUE PATIENTS
(n=102)

Age: 57 (range 25-82)

Sex: 66% Female
34% Male

Race: 88% White
12% Black

Education: 13 +/- 3 years

Occupation: 32% Homemaker
34% Blue Collar
34% White Collar

Work Status: 42% Full Time
20% Part Time
38% Retired

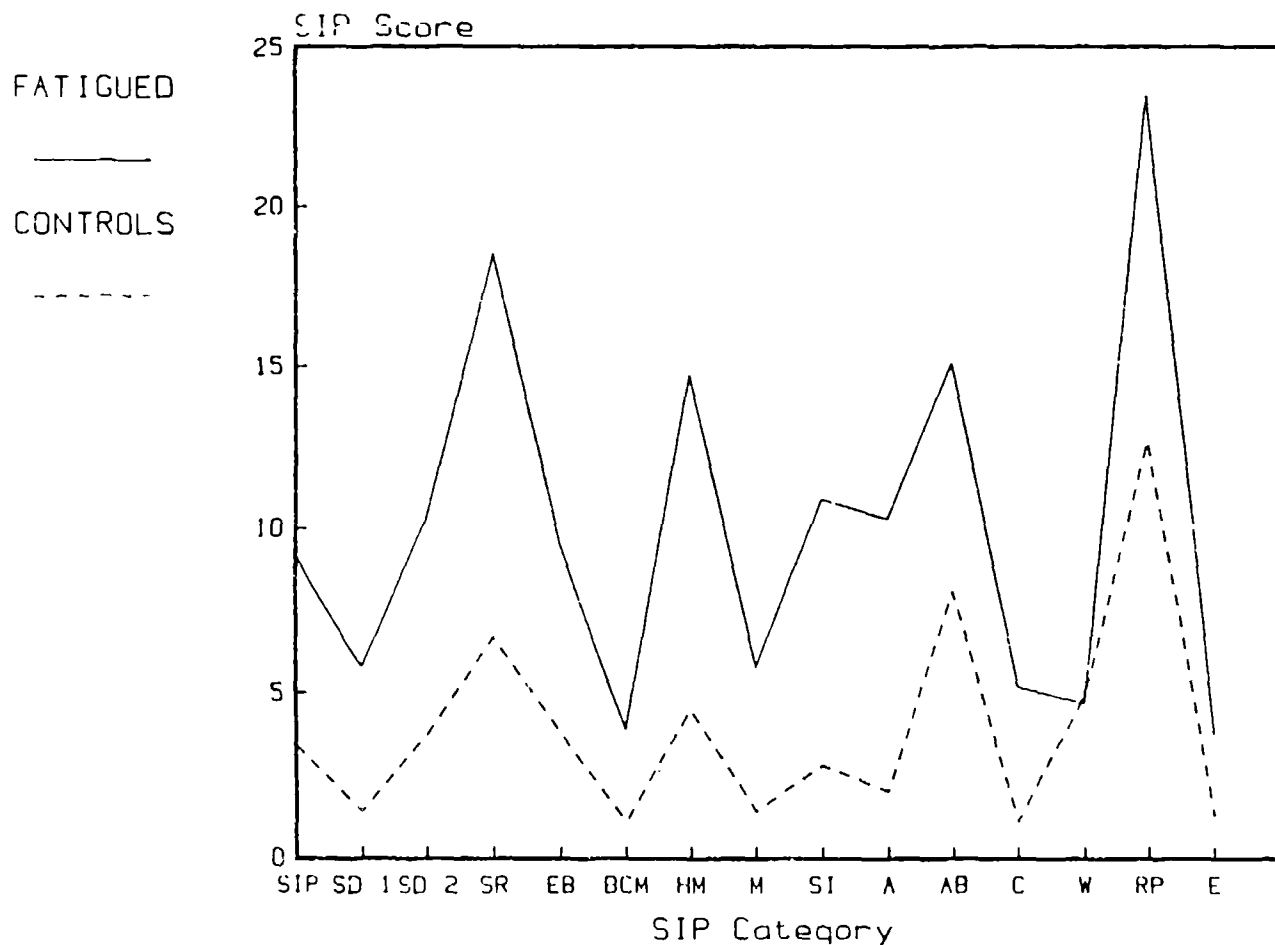
80% Married

TABLE II
ANALYSIS OF VARIANCE COMPARISON
OF FATIGUE AND CONTROL GROUPS
ON PSYCHOMETRIC AND DEMOGRAPHIC VARIABLES
(n=26 in each group)

VARIABLE	df	F	p	
Montgomery	1/47	127.53	.00001	E>C
Cardenas	1/46	4.56	.037	E>C
BDI	1/50	41.94	.00001	E>C
MSPQ	1/50	26.63	.00001	E>C
SRRS	1/50	.02	ns	E>C
SIF	1/50	20.70	.00001	E>C
SD1	1/50	16.42	.0002	E>C
SD2	1/50	11.27	.0015	E>C
MBHI 1 Introversive	1/50	3.22	.07	E>C
MBHI 2 Inhibited	1/50	5.72	.029	E>C
MBHI 3 Cooperative	1/50	0.93	ns	C>E
MBHI 4 Social	1/50	7.80	.007	C>E
MBHI 5 Confident	1/50	2.74	ns	C>E
MBHI 6 Forceful	1/50	1.09	ns	E>C
MBHI 7 Respectful	1/50	0.81	ns	C>E
MBHI 8 Sensitive	1/50	14.10	.0005	E>C
MBHI A Chronic Tension	1/50	4.59	.037	E>C
MBHI B Recent Stress	1/50	4.52	.038	E>C
MBHI C Premorbid Pessimism	1/50	8.39	.005	E>C
MBHI D Future Despair	1/50	5.09	.028	E>C
MBHI E Social Alienation	1/50	1.43	ns	E>C
MBHI F Somatic Anxiety	1/50	11.11	.0016	E>C
Age	1/50	0	ns	E=C
Education (years)	1/49	0.15	ns	C>E
Job	1/50	.48	ns	C>E
Occupational Status	1/48	.28	ns	E>C
Marital Status	1/49	.72	ns	E>C
Living Arrangement	1/50	0	ns	E=C
# Others in Home	1/50	.07	ns	E>C

TABLE III

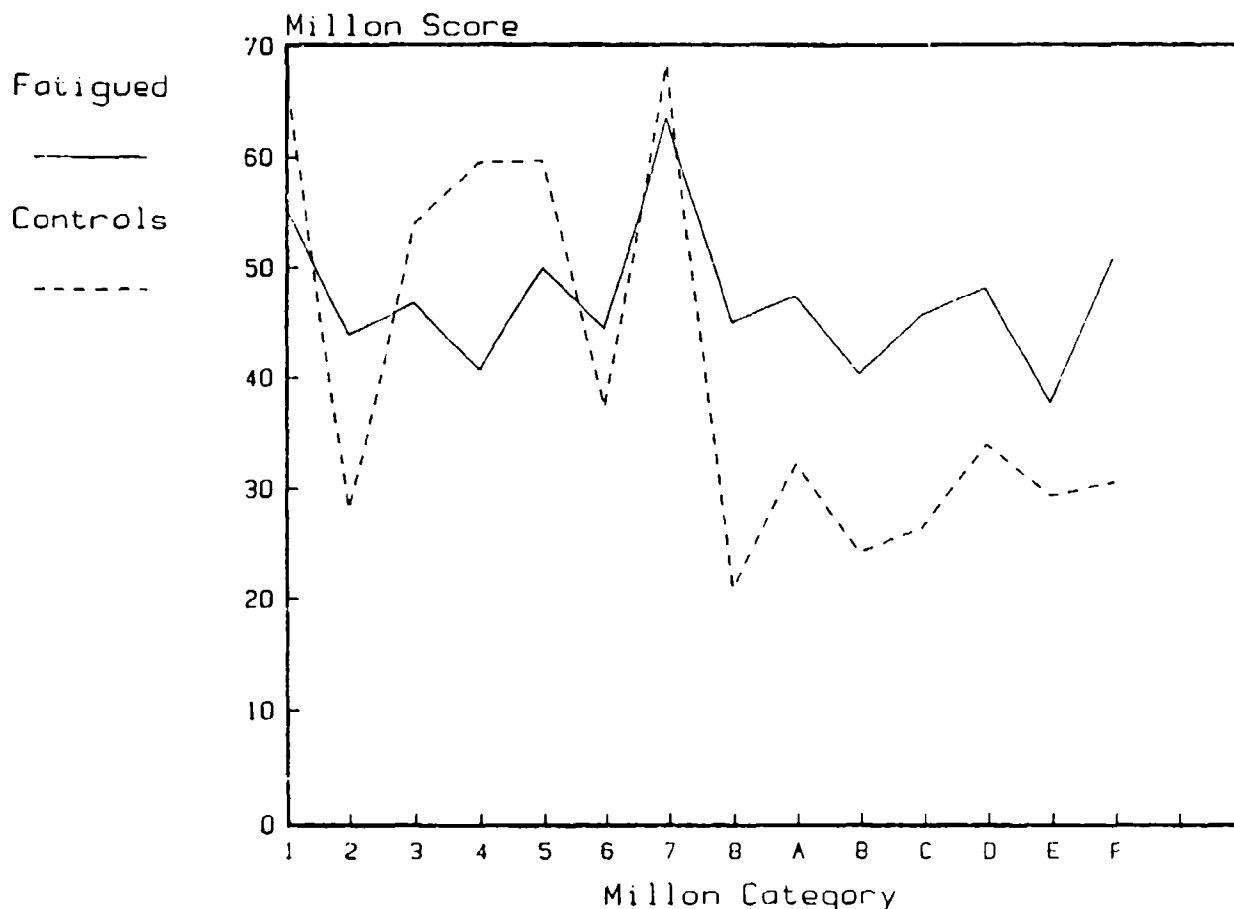
SICKNESS IMPACT PROFILE SCORES Fatigued vs Control Patients



(NOTE: SIP=Total Score; SD1=Cumulative Physical Dimension; SD2=Cumulative Psychosocial Dimension; SR=Sleep and Rest; EB=Emotional Behavior; BCM=Body Care and Movement; HM=Home Management; M=Mobility; SI=Social Interaction; A=Ambulation; AB=Alertness Behavior; C=Communication; W=Work; RP=Recreation and Pastimes; E=Eating)

TABLE IV

MILLON B.H. INVENTORY SCORES Fatigued vs Control Patients



(NOTE: Scale 1=Introversive; 2=Inhibited; 3=Cooperative; 4=Social; 5=Confident; 6=Forceful; 7=Respectful; 8=Sensitive; A=Chronic Tension; B=Recent Stress; C=Premorbid Pessimism; D=Future Despair; E=Social Alienation; F=Somatic Anxiety).

TABLE V
REGRESSION ANALYSIS
TO PREDICT MEMBERSHIP IN CONTROL GROUP*

<u>Variable</u>	<u>Beta Weight</u>	<u>Beta</u>	<u>Significance</u>
BDI	-0.023	-.375	.0001
MSPQ	-0.014	-.198	.0175
MBHI - F	-0.003	-.205	.0214
Marital Status	-0.084	-.163	.0362
constant	0.932		.0001

Multiple $r = .599$, $R^2 = .359$
 $F = 15.98$, $df = 4/114$, $p < .0001$

*Excludes Montgomery and Cardenas measures.

A Model of Psychological Interventions for
Consultation and Liaison with Medical Clinics

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Abstract

Brief strategic therapy has become a popular treatment modality for a variety of anxiety disorders. Since anxiety often complicates and exacerbates medical problems, it would appear as if this treatment approach may be a valuable addition to psychology's armamentarium of more traditional interventions (e.g., systematic desensitization, hypnosis, relaxation training). A model will be presented to help the clinician determine which treatment approach is most appropriate (e.g., traditional interventions vs brief strategic interventions). This model is based on Brehm's theory of reactance and on the patient's perception of the amount of control he/she has over their symptomatic behavior. Case examples will be presented to illustrate the application of this model in consultation and liaison with dental, neurology, family practice, and orthopedic clinics.

Introduction

During the past few decades, interest in the application of psychological techniques for medically based problems has greatly increased. This interest has been manifested by: (1) the construction of Division 38 (Health Psychology) within the American Psychological Association (Matarazo, 1979), (2) the publication of textbooks such as Health Psychology (Stone et.al., 1979), Contributions to Medical Psychology (Rachman, 1977), Medical Psychology (Prokop, 1981), Pediatric Psychology (Lavigne, et.al, 1981), and The Handbook of Pediatric Psychology (Tuma, 1982) and (3) the placement of psychologists in schools of medicine (Natan et al, 1979). This relatively new area of interest has stimulated a lot of research on the efficacy of the different types of psycho-physiological interventions. For example, numerous reports describe the effectiveness of hypnosis in the treatment of: (1) addictive disorders such as obesity (Matt and Roberts, 1979), cigarette smoking (Holroyd, 1980), and alcoholism (Katz, 1980); (2) psychosomatic disorders such as migraine headaches

(Cedocrenty, 1979), worts (Johnson and Barber, 1979), hypertension (Wadden Et.al., 1980), asthma (Collison, 1975), and even cancer (Simonton and Simonton, 1975); and (3) pain perception (Hilgard and Hilgard, 1975 and Barber, 1977). Biofeedback and relaxation training appear to be effective with stress related disorders such as migraine headaches (Dalessio, 1972), Raynold's Disease (Spittell, 1972 and Schwartz, 1973), and hypertension (Shoemaker and Tasto, 1975). Cognitive-behavioral and straight behavioral techniques have been used in the treatment of bronchial asthma (Khan, 1977), pain perception (Khatami, et.al., 1978), and alcohol problems (Miller, 1976).

A brief review of the research literature suggests that there are many different types of interventions for the same problems. Matching psychophysiological disorders with the most effective treatment appears to be equivocal. The success of an intervention seems to be due to patient variables, therapist variables, the patient-therapist relationship, and/or the specific treatment technique. The present paper develops a model which can be used to analyze these variables and thus select the most appropriate intervention. Four cases will also be presented in order to illustrate this model.

The Model

Guidelines for selecting appropriate therapeutic interventions were presented by Rohnbaugh et.al. (1981). The guidelines were based on a two dimensional model (reactance x control). These two dimensions are based on Brehm's social psychological theory of reactance (Brehm, 1966). The fundamental premise of the reactance demension is that people experience psychological reactance which is the desire to avoid being subject to any directive that threatens to eliminate their free behavior. This dimension is relational in that people experience other people as either enhancing or limiting their freedom. When people perceive another's directive as enhancing their freedom (low reactance) they tend to comply with the directive; however, when they preceive another's directive as limiting their freedom (high reactance) they tend to defy the directive. For terms of treatment, therapists can best assess this dimension by assigning homework to their patients in order to see if they comply or defy such directives. The fundamental premise of the dimension labelled control is that the target behavior is preceived as being either under someone's volitional control (high control) or under no-one's control (low control). Therapists can best assess this dimension by merely asking patients whether they perceive the target behavior as something that can be done voluntarily either now or in the future.

These two dimensions form a 2x2 matrix which is illustrated in Table 1.

 INSERT TABLE ABOUT HERE

Patients who fall into the first quadrant (high reactance x high control) defy a therapist's directives and perceive the target behavior as something that can be controlled. Quadrant 2 (high reactance x low control) is exemplified by patients who defy a therapist's suggestions and perceive the target behavior as being something that cannot be brought under volitional control. In quadrant 3 (low reactance x high control), patients comply with a therapist's directives and perceive the target behavior as something that can be controlled. Patients who fall into quadrant 4 (low reactanc x low control) comply with a therapist's suggestions however, they do not perceive the target behavior as being something which can be brought under volitional control.

Interventions used to change target behavior vary as a function of the patients perceived reactance and perceived control over the target behavior. For example, patients who fall into quadrant 3 are ideal candidates for behavioral therapy, relaxation training, biofeedback, and hypnosis because they are confident that they can gain control over the target behavior and they are likely to comply with the therapist's suggestions (e.g., practice relaxation exercises at home). Patients who fall into quadrant 1 are excellent candidates for defiance-based paradoxical interventions since they tend to defy a therapist's suggestions, and patients who fall into quadrant 4 are excellent candidates for compliance-based paradoxical interventions because they tend to comply with a therapist's suggestions. Typical defiance-based paradoxes are: (1) soft restraining (e.g., tell patients they probably shouldn't change since the target behavior serves a function, or tell patients that improvement/change must be slow); (2) hard restraining (e.g., tell patients that they can't or shouldn't change at this time); and (3) positioning (e.g., accept and exaggerate the patient's position such as becoming more pessimistic than the patient). Typical compliance based paradoxes involve instructing the patient to engage in the specific behavior to be eliminated. Therapists may instruct the patient to schedule the problematic behavior in order to increase predictability, and/or increase the frequency and intensity of such behaviors in order to gain a sense of control over the behavior. Patients who fall into quadrant 4 must be moved either to quadrant 1 by sidestepping the unfree symptom and then assuming a defiance-based intervention at a free behavior, or to quadrant 4 by taking the one-down position or giving the illusion of alternatives and then aiming a compliant-based intervention at the unfree behavior. These types of interventions will be exemplified in the following 4 case studies.

Case 1 - Quadrant 1

Identifying Data. John Smith is a 37 year old white male, active duty/U.S. Army, E-7.

Referral Source. Dental Activity

Chief Complaint. Dental Phobia

History. John Smith was on orders for a PCS move to an overseas assignment; however, he had avoided dental examinations for 6 years. During that time he developed severe teeth and gum problems which if not corrected would result in a deletion of his orders. He was seen by the chief of the DENTAC on three (3) separate occasions. During each appointment he walked out of the clinic after the dentist started working on his teeth. He was given Nitrous-Oxide on his third visit; however, he still walked out of the clinic. General anesthesia was being considered for at least some of the work.

Treatment. John Smith was seen for a total of three (3) sessions. The modality of treatment during the first two (2) sessions was relaxation training and hypnosis. During the third session he asked the therapist if he felt "just a little funny doing relaxation exercises and hypnosis." He stated that such things were for weak people and that he had no use for psychologists and psychiatrists. The therapist redefined strength as the ability to use one's mind to control one's behavior/body as opposed to using medication. Numerous examples and metaphors were used which appeared to make him more angry. He eventually asked the therapist for his "expert" advice.

The therapist told him that at this point in time he was not ready for such extensive dental work; in fact, it was the therapist's "expert opinion" that he should resign himself to a deletion of orders and learn how to live with his deteriorating dental problems. Three weeks later, the chief of the DENTAC informed the therapist that John Smith had successfully completed his dental work without general anesthesia or Nitrus-Oxide.

Discussion. John Smith was defiant and he perceived the target behavior (running out of the dental clinic) as something which was under his control. During the third session, when it became obvious that he was defiant, the therapist switched therapeutic modalities from relaxation-training and hypnosis to defiance-based paradoxical interventions. His concepts of strength and weakness were reframed in that his definition of weak (using relaxation and hypnosis to control behavior) was used to define strength and his definition of strength as exemplified by himself was defined as weak. Following this reframe, the therapist used a hard restraining intervention by telling him that he was not ready for such extensive dental work and then recommended that he not have it done at the present time. Being truly defiant, he completed all of the dental procedures without general anesthesia or Nitrus-Oxide.

Case 2 - Quadrant 2

Identifying Data. Jane Doe is a 34 year old white female, active duty/US Army , SP-4.

Referral Source. General Medical Clinic

Chief Complaint. Jane complained of stabbing like pains that radiated throughout her head, neck, and into her back.

History. Jane doe has a 2 year history of tension headaches. She states that she has headaches daily. They usually begin at work and last all day. She has had medical work-ups which were negative, and has been treated with Elavil and Tofranil. She was given a MMPI which yielded a valid profile (270/136489-5:6/F-K) that suggests a chronic pattern of depression and anxiety that may exacerbate her perception of pain.

Treatment. Jane was followed for five (5) months and treated with the following therapeutic modalities: Biofeedback, a relaxation group, supportive therapy, and cognitive-behavioral therapy. During that time her tension levels decreased as measured by finger temperature biofeedback and EMG. In spite of these reductions, her subjective perception of pain remained constant. She was eventually hospitalized after becoming suicidal when her husband threatend to leave her.

Discussion. Jane perceived her headaches as something which was beyond control and she appeared to defy therapeutic attempts to reduce her headaches. These behaviors place her in the second quadrant (high reactance, low control). The target behavior was redefined as tension and measured by psychophysiological measures (finger temperature biofeedback and EMG). In spite of obvious reductions in tension, which were reported on a hardcopy print-out, she continued to complain of pain. The treatment modality was changed to cognitive-behavioral therapy which was unsuccessful. Treatment was terminated when she was hospitalized for suicidal ideation.

This case illustrates the extent to which patients who are in quadrant two (2) can consume mental health resources while at the same time making such resources appear ineffective. A defiant-based paradoxical intervention such as soft restraining may have interdicted the cycle of asking for help and then refusing it. Her therapist could have told her that he made a mistake by being overly optimistic in attempting to reduce her subjective experience of pain because he now realized that it serves an important function (e.g., possibly holding her marriage together while punishing and controlling her husband and being nurtured by her therapist). If her pain was totally eliminated, she would probably experience much more distress than she was experiencing with the pain. Consequently, a realistic treatment goal could be to learn how to live with the pain rather than try to eliminate the pain.

Case 3 - Quadrant 3

Identifying Date. Robert Smith is a 36 year old white male, active duty/ U.S. Army, SSG.

Referral Source. Prosthodontics

Chief Complaint. Robert Smith's gagging reflex interfered with prosthodontic work which required him to hold the impression plates in his mouth for a minimum of 15 minutes. This work needed to be completed before he could receive clearance for POR processing prior to a PCS to Korea.

History. Robert Smith's dentist tried working with him for several sessions before deciding to request a consultation. He was described as being motivated for the procedure but was incapable of tolerating the dentist's instruments or the impression plate.

Treatment. Robert Smith was seen for a total of 4 sessions within three (3) weeks. The initial interview did not reveal any traumatic events which were related to his gagging reflex. When questioned about his motivation, his responses indicated a high level of motivation to complete the procedures before leaving for Korea. He had wanted the work to be done for a number of years but was unable to get it done because of his gagging. As a consequence he had minimal contact with dentistry resulting in extensive degradation of his dental health.

In response to the indications of high motivation and a willingness to follow instructions, the therapist decided to employ direct suggestions in a hypnotic approach. An induction involving eye closure, reverse arm levitation, and imagery resulted in a light trance. Suggestions were made that the patient would find it easier to tolerate sensations of the impression plate. The dentist then placed a plate in the individual's mouth. Positive suggestions were given to him to aid in his keeping the plate in his mouth as long as possible. He was able to keep the plate for slightly over six (6) minutes.

After he removed the practice plate, additional suggestions were given which emphasized his strong motivation to achieve his goals and suggestions that he would take the opportunity to practice holding the training plate in this mouth while at home. After the trance was ended, these suggestions were repeated.

The next week he reported that after his wife had taken the children out of the house, he had practiced for almost four (4) hours. After additional practice that week he was able to keep the plate in his mouth for almost 20 minutes. Within a week, he was able to go through the prosthodontic procedures without gagging.

Discussion. Robert perceived his gagging as something which could be controlled and he complied with the suggestions made by the therapist. These behaviors place him in the third quadrant (low reactance, high control) which made him an excellent candidate for the straight-forward use of psychophysiological techniques. In other words, given his level of reactance and perceived control over the gagging, the therapist did not have to use paradoxical techniques.

Case 4 - Quadrant 4

Identifying Data. John Doe was a 27 year old black male, active duty/U.S. Army, E-5.

Chief complaint. Generalized anxiety disorder with tension headaches and head twitching.

History. John Doe's symptoms began 10 years ago when he was playing basketball. He tends to attribute his symptoms to a heat-injury which occurred during that basketball game. Over the past 10 years his symptoms have gotten progressively worse. Currently, he has withdrawn from others and has been given the nickname "barrick rat ". During the past 10 years he was treated for his headaches and twitching with (1) medication by general medical officers, psychiatrists, and neurologists, (2) intensive dynamic psychotherapy by psychiatrists; and (3) behavioral therapy by psychologists.

Treatment. John Doe was seen for a total of nine (9) sessions. Therapy began with relaxation training for his headaches and twitching, and in-vivo desensitization for his fear of twitching in front of people. After four sessions John made few changes, so the therapist began to use complaint-based interventions. John was instructed to increase both the number of times he developed headaches and the intensity of his headaches. After two more sessions he discovered that he could induce headaches and twitching by tightening his neck muscles which had formerly been his way of attempting to prevent headaches and twitching. When he became nervous, he would tighten his neck muscles in order to prevent twitching. As he tightened his muscles he began to twitch, so his solution was to tighten his muscles even more which resulted in more twitching, resulting in more tightening, *ad infinitum*. He was seen three (3) more times over the next three (3) months. At termination his headaches and twitching had ceased and he had built a social support system.

Discussion. John perceived his headaches and twitching as something which was beyond his control; however, he appeared to comply with the therapist's recommendations. These behaviors place him in the fourth quadrant (low reactance, low control). By prescribing the symptom, he discovered that he could control (intensify) his headaches and twitching by tightening his neck muscles.

With his discovery, he realized that his former solution was the problem since it maintained his headaches and twitching. Consequently, as he began to gain a greater sense of control over his behavior, he began to leave the barrack and build a social support system.

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TABLE 1

A Model Of Parameters Used To Select
Appropriate Psychological Interventions

Perceived Reactance	Perceived Control	
	High	Low
High	1	2
Low	3	4

STRESS MANAGEMENT AND HEALTH PROMOTION: TWO SIDES OF THE SAME COIN

DENNIS M. KOWAL, Ph.D.

→ A program designed to modify health habits, needs to be developed within an organizational as well as a personal context. The program should also recognize that the health promotion effort should involve interventions that members of the community can focus on themselves. But will anyone out there listen? Most people now recognize the extent to which they can influence their own health and well being. But they often do not act upon that recognition, and here is where the organization must exert its influence to insure compliance with a healthy life-style. The following discussion attempts to link the two concepts, stress management, and health promotion into a cohesive fabric of organizational-personal intervention to insure a healthy military population. —

WHAT IS STRESS?

Stress is an everyday fact of life. You can't avoid it. Stress is any change that you must adjust to. Stress is an adjustive demand that requires coping behavior. Stress resides neither in the person nor in the situation alone, but depends on how the person appraises and interacts with events. It depends on the person's perception of himself (his self-esteem) in relation to his situation and his cognitive response to that situation (his self-talk). Challenges and changes in our daily routines can actually be stimulating and lead to growth. While we usually think of stressful events as being negative, such as the injury, illness or death of a loved one, they also can be positive. For instance, getting a new home or a promotion brings with it the stress of change of status and new responsibilities. Falling in love can, for some people, be as stressful as falling out of

love. To a great extent, whether novelty is stressful or not stressful for a person depends on how it is perceived and experienced. A certain amount of stress is essential to our well being though individual's tolerances levels will vary. The trick is to find the level of stress that suits us best.

WHERE DOES IT COME FROM?

We experience stress from three basic sources: our environment, our bodies and our thoughts. Our environment, families, and jobs bombards us with demands to adjust. We must endure weather, noise, crowding, interpersonal and family demands, time pressures, performance standards and various threats to our security and self esteem. Common job stressors are: confusing requests from supervisors, unrealistic suspense dates (excessive time pressure) or expectations, lack of challenging goals, underutilization, little recognition, lack of a sense of belonging, little feeling of control, lack of perceived options for advancement, lack of proper equipment, little or no feedback regarding job performance, work overloads with no priorities, role conflicts, role overloads, and discrimination.

The second source of stress is our own physiological makeup. The rapid growth of adolescence, aging, illness, accidents, poor diet and sleep disturbances all tax the body. External threats also produce body changes which are themselves stressful. Our reaction to problems, demands and dangers is very much influenced by an innate "fight or flight" response which we inherited from our primitive ancestors. Our predecessors tended to pass on to their children, through natural selection, any physical traits which gave them an advantage over their enemies in a hostile, competitive world. As a result, we have as part of our biochemical makeup the innate

tendency to prepare to fight or flee whenever we feel threatened. Whether these threats are real or imagined.

In simple terms, our body undergoes the following changes when you experience the "fight or flight" response: When the stimuli or event is interpreted as threatening, the regulating centers give the body information to speed up in preparation to confront or escape the threat. Our pupils become larger so we can see better, and our hearing becomes acute. Our muscles tense to deal with the challenge. Blood pulsates through our heads so that more oxygen reaches our brain cells, stimulating our thought processes. Our heart and respiratory rates increase. Blood drains from our extremities and is pooled in our trunk and head, while our hands and feet feel cold and sweaty. If the body is not given relief from the biochemical changes that occur during the "fight or flight" response, chronic stress may result. When you are already stressed and more stress is added, the regulatory centers of the brain will tend to overreact. This results in what is considered wear and tear on our body and result in eventual breakdown and death. This process is known as the General Adaptation Syndrome which includes: Alarm (events perceived as threatening followed by individual undergoing physiological changes), Resistance (individual strives to cope), Exhaustion (fatigue, wear and tear on individual, and eventual death).

The chronic arousal of the "fight or flight" response can turn transient high blood pressure, or hypertension, into permanent high blood pressure and high risk for stroke. Stress has been found to be related to many other physical ailments such as headaches, peptic ulcers, arthritis, colitis, diarrhea, asthma, cardiac arrhythmias, sexual problems, circulatory problems (cold hands and feet), muscle tension and even cancer. One of the major

reasons for this is that the great majority of us do not practice preventive medicine. That is, we do not make an effort to reduce the stresses in our lives. We have not learned that we do not need to remain totally at the mercy of our involuntary "fight or flight" responses.

The third source of stress derives from our own thoughts or self-talk. How we interpret and label our experience, what we predict for the future can serve either to relax or stress us. Interpreting a sour look from our boss to mean that we are not doing a satisfactory job is likely to be very anxiety provoking. Interpreting the same look as tiredness or preoccupation with personal problems will not produce nearly the same anxiety and self-doubt. Dwelling on our negative thoughts produces tension in our body, which in turn creates the subjective feeling of uneasiness and leads to more anxious thoughts. We could call this vicious cycle, "anticipatory anxiety" - that which we generate ourselves. This has its effect on our ability to perform through our self-talk. The fears and uncertainties that we generate and end up expecting. This self-talk is what programs us for failure or leads to paralysis.

WHAT DOES IT DO TO US?

There are positive effects of stress. An individual develops an increased awareness of his environment, he/she becomes more sensitive to events in the world around him. Second, there is an increase in energy and vitality. Third, an individual engages in more productive behavior. Stress actually prepares us for performing the daily activities of living.

The negative effects of stress are inefficiency, decreased ability to cope, increased susceptibility to illness (especially heart attack), interpersonal difficulties at work, home and with friends, irritability, inability to relax, feelings of guilt and alienation, chronic sense of time urgency,

reduced ability to make decisions, poor self-image, and reduced feelings of self-esteem.

WHAT CAN WE DO ABOUT IT?

We can't escape all of the stresses of life or completely turn off our innate "fight or flight" response to threat, but we can learn to counteract our habitual reaction to stress by learning how to talk to ourselves and relax. The very centers of the brain that speed up our biochemical processes when we are alarmed can be called upon to slow these processes down. The relaxation response is the opposite of the alarm response and it returns our body to its natural balanced state. Your pupils, hearing, blood pressure, heartbeat, respiration and circulation return to normal and your muscles relax. The relaxation response has a recuperative effect in that it allows you a respite from external stress. It keeps you from using up all your vital energy at once as you react then overreact and are finally overwhelmed by the stresses in your life. It normalizes your physical, mental and emotional processes.

WHAT SHOULD BE THE ORGANIZATIONS RESPONSIBILITY?

The steps that we can take to reduce our own risk of disease or injury are, in and of themselves, not a comprehensive health promotion program. The equation is not that simple. We know that health habits and life styles are important factors in modifying our risk for disease or death, but the implementation of such changes on a large scale are an organization responsibility as well as an individual one. This organization responsibility has been outlined in the Surgeon General's 1979 Report, Healthy People. This report recommended that an integrated comprehensive program be developed to provide preventive as well as rehabilitative services to members of the Armed Forces and their families. (See Figure 1)

However, in order to be successful the active participation of the health profession must be achieved. We still cling to the belief that wellness is the sole responsibility of the individual and that the health profession is to be judged only on the basis of cure rates and repair rates as their sole criteria for success.

The health community has little experience in changing lifestyles, however, other than through the traditional means of providing information and education. But, changing lifestyles requires much more than imparting factual knowledge. Most adults know that smoking is unhealthy; they know that proper nutrition and exercise are necessary for good health. Knowledge does not always translate into changes in behavior. Such behavior is deeply rooted in the habits and sociocultural foundations of the community in which people live. Thus an Army health promotion effort should be systematic and should include activities to impact on both individual habits as well as those social and environmental factors which relate to healthy lifestyles.

As a first step in this process of promoting health OASD (HA) held a four day conference in 1983 to bring together military personnel actively working in the arena of health promotion to formulate recommendations on the direction such a program should take within the Army.

The conference was organized into working groups and members were tasked to present recommendations under the following headings: (1) individual wellness, i.e., the individual measures and programs that include behaviors largely under volitional control; (2) community wellness, i.e., social and cultural issues facilitating health promotion; (3) community development and the development of a "model program," i.e., the issues and approaches to mobilizing a community to support health promotion; (4) data gathering and program evaluation. (See Figure 2)

WHERE DO WE GO FROM HERE?

The need to change lifestyles, which is the basic requirement for a health promotion program, is a very complex and long-term undertaking involving broad sociocultural processes. The Army has had little experience in this area, especially on a large scale. Therefore, the effort should be deliberate, with careful evaluation of specific efforts before launching into a massive program that tries to do everything at once. We must avoid raising unrealistic expectations of quick and dramatic results that can be subjected to economic costs-benefits analysis.

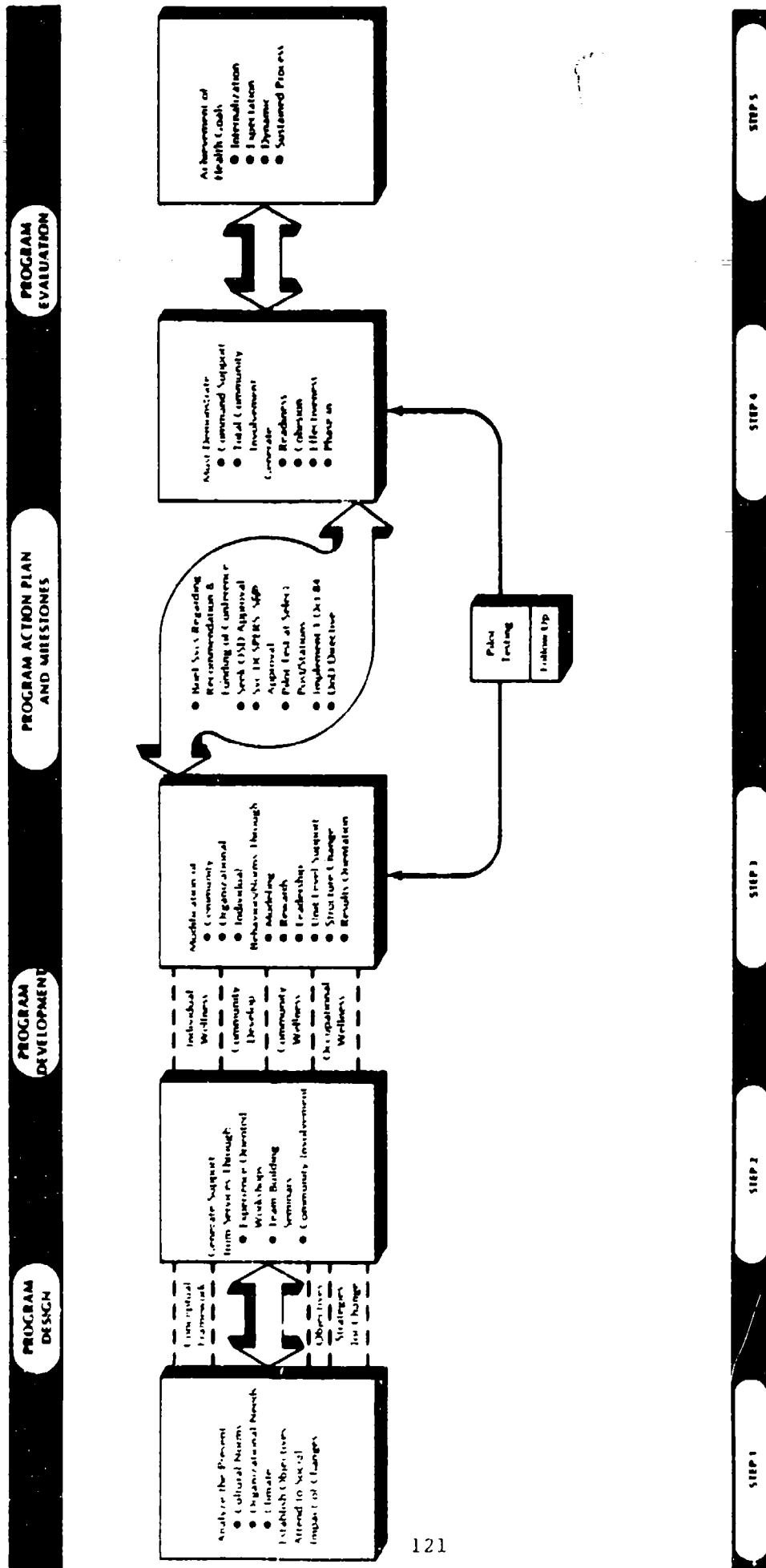
In spite of the foregoing caveats, the emphasis on promoting health in a systematic way is long overdue. The Army community represents an ideal environment for such an effort for many reasons. There was a general consensus that if such an effort can succeed anywhere, it will be in the military community. Our mission requires healthy people, it is part of the value system of the military and we are organized to go about such a task in an integrated, comprehensive fashion. This does not imply coercion by any means; on the contrary, we believe the effort will succeed to the extent that there is voluntary personal commitment and involvement by individual members and groups of the community.

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MAJOR GOALS OF THE DOD HEALTH PROMOTION PROGRAM

- **TO DEVELOP A COHESIVE MILITARY COMMUNITY WITH
VALUES AND NORMS THAT PROMOTE:**
 - **INDIVIDUAL MENTAL AND PHYSICAL WELLNESS**
 - **HIGH UNIT PERFORMANCE**
 - **HEALTHY FAMILY ENVIRONMENT**
 - **TOTAL COMMUNITY INVOLVEMENT**
- **TO BUILD ON THE HEALTH AND WELLNESS RESOURCES
AND PROGRAMS AVAILABLE IN THE COMMUNITY**

MODEL FOR THE MODIFICATION OF ORGANIZATIONAL HEALTH NORMS



OTHER CLINICAL PAPERS

AD-P005 576

Use of the Shipley Institute of Living Scale to Estimate Intelligence in Army Health Care Facilities

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Abstract

In part one, a comparison is reported of the accuracy of full scale IQ predictions using two Shipley Institute of Living Scale procedures with two different populations. In part two, the results of a Fall 1986 survey of Army psychologists is reported regarding the use of the Shipley. A Shipley procedure for estimating WAIS-R IQ (Zachary, Crumpton & Spiegel, 1985) is shown to produce IQ estimates which much more closely approximate actual WAIS-R full scale IQs than use of the procedure presented in the Shipley manual published prior to 1985. This superiority was observed both with psychiatric patients and for subjects with suspected neuropsychological disorders. Army psychologists' Shipley use was surveyed regarding the following issues: frequency of use, setting and purpose of use, IQ estimate procedure used and degree of satisfaction with that procedure. The results of the survey show widespread use of the Shipley to estimate intelligence but continued use of older WAIS IQ estimation procedures in the majority of settings sampled. Degree of satisfaction with use of the Shipley to estimate intelligence was relatively high but did not covary with the estimation procedure employed.

Introduction

The Shipley Institute of Living Scale (also referred to as the Shipley-Hartford) has long been recognized as a useful instrument for briefly estimating intelligence (Bartz & Loy, 1970, Paulson & Lin, 1970). Recently, a procedure was described for using Shipley data to estimate WAIS-R full Scale IQs (Zachary, Crumpton & Spiegel, 1985). In light of now well recognized differences in WAIS and WAIS-R IQs (Lippold & Claiborn, 1983; Rabourn, 1983; Wechsler, 1981), it comes as no surprise that the older procedure for estimating IQ was found to significantly overestimate WAIS-R IQ when compared to the procedure standardized on the WAIS-R.

Part one of the present study is intended to replicate the Zachary, et al, comparison, albeit on a smaller scale, with two Army populations: soldiers whose intelligence became of interest while being evaluated and

treated in a Hospital Psychiatry Department and persons referred to an Army psychologist for evaluation of possible neuropsychological disorders. In part two, the results of a survey performed in the Fall of 1986 are reported regarding how the Shipley is used by Army psychologists.

Part One

The first part of this study reports a comparison between actual WAIS-R IQs and Shipley predicted IQs using the Paulson and Lin WAIS IQ prediction procedure and the Zachary et al, WAIS-R prediction procedure. The first group of subjects consisted of almost all persons referred to the psychology service between November 1985 and December 1986 whose referral question prompted a WAIS-R to be administered (two subjects from this group were discarded because their Shipley performances were so low that an IQ estimate could not be computed). Of those 23 subjects, all but four were referred from the Psychiatry Outpatient Clinic or Ward. The remainder were referred from the Nuernberg MEDDAC (Alcoholism) Residential Treatment Facility. All subjects were administered the WAIS-R and Shipley as well as other instruments depending upon the specific questions prompting the patients referral.

The second group were almost all persons (22) receiving neuropsychological evaluations between December 1985 and December 1986. (The results of two persons administered neuropsychological evaluations were discarded because the evaluations concluded that those persons were dissimulating.) All subjects were administered the WAIS-R and Shipley as part of an expanded Halstead-Reitan neuropsychological battery.

Of the total 45 subjects, 39 were males, 26 were white, 15 were black, 3 were Hispanic and 1 was Oriental. The median age was 27 years old. The two groups did not differ significantly regarding age or ethnicity. The intellectual evaluation group contained only one female.

Insert Table 1

The summary of Part One results depicted in Table 1 shows that both IQ estimates averaged higher than the WAIS-R Full Scale IQ. Although the median WAIS-R estimate was 8 points closer than did the median WAIS estimate, it still was 7 IQ points higher than the median Full Scale WAIS-R IQ. Analysis of the size of the error associated with each estimation suggests a somewhat closer correspondence using the WAIS-R estimate than suggested by comparison of group medians. The median error for the WAIS estimate was 14 (range 1 to 38) and the median error for the WAIS-R estimate was 3 (range -14 to 31).

Table 1
Comparison Between IQ Estimation Procedures

	Intellectual Evaluation Group	Neuropsychological Evaluation Group	Total
WAIS-R Full Scale IQ (range)	79 (72 - 107)	83 (72 - 127)	80 (72 - 127)
Median Estimated WAIS IQ (range)	94 (76 - 132)	97 (76 - 117)	95 (81 - 132)
Median Estimated WAIS-R IQ (range)	84 (60 - 113)	89 (67 - 128)	87 (60 - 128)
Median Difference Between Est. WAIS IQ and WAIS-R FS IQ (range)	14 (1 - 38)	14 (3 - 23)	14 (1 - 38)
Median Difference Between Est. WAIS-R IQ and WAIS-R FS IQ (range)	3 (-14 - 31)	3 (-9 - 17)	3 (-14 - 31)
Percent Est. WAIS IQs Within 10 (or 15) Points of WAIS-R FS IQ	26 (65)	36 (55)	31 (60)
Percent Est. WAIS-R IQs Within 10 (or 15) Points of WAIS-R FS IQ	61 (78)	82 (91)	71 (84)

The practical question for clinicians regarding the use of a brief procedure to estimate intelligence is dependability of the obtained IQ estimate. Table 1 also depicts a comparison of the percent of IQ estimates falling within 10 or 15 points of the Full Scale WAIS-R IQ. The percentage of WAIS estimates (31 and 60) was far below the percentage of WAIS-R estimates (71 and 84) which fell within 10 or 15 points respectively of the Full Scale WAIS-R IQ.

Part Two

In October 1986 all Army psychologists listed in the June 1985 Army Psychologist roster were mailed a questionnaire regarding their use of the Shipley. A total of 100 questionnaires were mailed. Each psychologist was asked the frequency of administration of the Shipley and the purpose for which the Shipley was used. Each was asked to identify the source for the procedure used to estimate IQs and was asked to compute three IQ estimates using that procedure. Each was also asked to express the degree of satisfaction they felt with the accuracy of the intelligence estimates obtained through use of that procedure.

Of the 100 questionnaires mailed to 68 different settings, 49 were returned from 46 settings. The percent of work settings sampled was 68 percent. The work settings sampled included medical center Psychology Services (8), hospital Psychology Services (4), community mental health services (13), psychologists organic to Army divisions (7) and a variety of other settings. Work settings not represented in the study include at least one medical center and one internship training setting. Responses were received from 37 settings where Shipley use would be consistent with the primary mission (i.e. excluding non-clinical settings and primarily child settings such as the Exceptional Family Member Programs).

Use of the Shipley was reported at 30 settings, or 81 percent of those settings where such an instrument would be expected to be called for. None of the EFMP settings and only one non-clinical setting reported Shipley use. Of the settings where use would be likely, only one medical center, one division, two hospitals and three CMHSs reported no use at all. Half of the settings reporting use of the Shipley administer fewer than 7 per month. Almost half of those remaining settings report administering over 20 per month. Not surprisingly, those settings using the Shipley most heavily were primarily medical centers or hospitals. Tallying the estimates of Shipley use indicates that those Army psychologists responding administer a total of over 3,000 Shipleys per year.

All settings using the Shipley report using it to estimate intelligence. Only 5 (17 percent of users) report use to assess thinking disturbance and 4 (13 percent of users) report use in the assessment of brain impairment.

Of the settings able to identify the procedure employed for estimating intelligence with the Shipley (either by name or by reporting their estimates for three examples on the questionnaire), 17 (61 percent) report using a procedure for estimating a WAIS rather than a WAIS-R IQ. The majority of those (11 or 39 percent) use the Paulson & Lin procedure, while 3 (11 percent) use the Bartz & Loy procedure, 2 use a procedure reported by Prado & Taub, (1966) and one uses yet a different, unidentified WAIS IQ estimation procedure. A large minority of respondents (11 or 39 percent) reported using the Zachary et al WAIS-R IQ estimation procedure. Two persons reporting use of the Shipley were unable to identify their procedure (one respondent was in transit and could not access professional materials and the other reported being unable to figure out how to use the procedure available to him).

Examination of which estimation procedure was used in various settings might be expected to reveal some pattern regarding "how the word gets out". The writer fully expected to see evidence of "the latest word" disseminating outward from medical center training programs to "the field". No such pattern materialized however. Persons in medical centers (both with and without internship programs) reported using WAIS IQ estimation procedures, and persons in divisions and CMHSs reported using the WAIS-R estimation procedure.

All respondents were asked to rate their satisfaction with the intelligence estimation procedure they were using on a scale of 1 to 5, with 5 being the highest rating. Not surprisingly, the individual identified above who was unable to figure out how to generate an intelligence estimate with his procedure reported minimal "1" satisfaction (the only rating of "1" reported). Only 3 persons (10 percent) reported as low as a "2" satisfaction rating and the modal rating of "3" was reported by 12 persons (40 percent). A rating of "4" was reported by 11 persons (37 percent) and 3 gave a maximum satisfaction rating of "5". Analysis of the level of satisfaction reported among the groups using different intelligence estimation procedures reveals no apparent relationship whatsoever. Use of the WAIS-R estimation procedure was about equally represented in every rating category (2 through 5). It is noted that 87 percent of those using the Shipley reported a rating of 3 or higher and 47 percent reported a rating of 4 or 5.

Discussion and Conclusions

The results in Part One of this study replicate the relative improvement in estimation of WAIS-R Full Scale IQ through use of the Zachary et al procedure for estimating WAIS-R IQ compared to the Paulson and Lin procedure for estimating WAIS IQ. This study finds a somewhat larger average error between both IQ estimates and actual WAIS-R IQ than did Zachary et al (8.1 and 14.4 compared to 6.5 and 8.4 for Zachary et al and Paulson and Lin procedures respectively). The explanation for

this may well relate to the lower average WAIS-R IQ of the subjects in this study compared to the Zachary et al study (80 compared to 91).

As expected, the survey of the use of the Shipley in Part Two indicated this instrument to be widely used to estimate intelligence and showed the most widely used procedure to be the older WAIS IQ estimation techniques. It was interesting to find that the degree of satisfaction did not correlate with the IQ estimation technique employed. Those using the older, less accurate procedure do not appear to recognize, or at least do not appear to object to the relative inaccuracy of the IQ estimates obtained. Those using the newer procedure, presumably do so out of awareness of its increased accuracy, but "still want more" or at least are no more satisfied than the users of the older procedures. There appears to be a need to inform the majority of Army psychologists who are unaware of the availability of a more accurate Shipley IQ estimation technique than the one they currently use.

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The Role of Psychological Autopsies in Suicide Prevention

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Abstract

→ Department of the Army now requires psychological autopsies to be provided by a mental health officer on all Army active duty members suspected or confirmed suicides or equivocal deaths. There is little published information regarding these increasingly important reports. This paper draws upon: 1) the authors personal experience in conducting psychological autopsies and 2) available printed information. It provides a review of the nature, purpose, process and the important suicide preventive role of these reports. Information on the classification of suicide is provided. The purpose of this paper is to provide information regarding the value of these reports and their role in the Army's overall suicide prevention effort. It is intended to enable the reader to obtain an initial exposure to psychological autopsies and to facilitate their capability to effectively conduct and write a psychological autopsy in order to meet Command and Army Community needs in this area. ←

Introduction

Several factors have combined to make psychological autopsies an item of growing interest in the Army. The Army-wide focus on suicide prevention, the emphasis of caring leadership as a critical part of this effort, the need of command to have as complete an understanding as possible of these tragic events, the inherent capacity for psychological autopsies to uniquely address the above issues and the DA requirement for these reports to be included as part of the LOD report, all combine to make a significant reading audience. This author's first psychological autopsy, completed in August 1985, was read by only a few individuals. This was due in part to the personal nature of these reports and the subsequent need to limit their circulation. Readers of the first report included the Division CG, the Chief of Staff, the Division Surgeon and mental health officers. The most recent psychological autopsy completed in October 1986 was read by all three Division Command Generals, Chief of Staff, all members of our Division Stress management Council including the chiefs of most Division Staff sections, all unit level commanders in the deceased chain of command and select Division and Tripler medical and mental health officers. Copies were attached to the LOD report, CID report and sent to prescribed offices at MACOM and DA

levels. Inasmuch as the importance of these reports has grown it behooves all psychologists as potential suicide investigators to learn the process of conducting a psychological autopsy and when required to expeditiously complete this task in the highest quality manner.

The new directive from DA (Pamphlet, 1986) requires that the psychological autopsy be done by a mental health officer. Writing psychological reports is a routine task for psychologists. Doctorate granting programs in clinical psychology provide considerable training in writing psychological reports based on interview and psychodiagnostic testing. Due to this extensive experience base, psychologists are in a prime position to provide quality psychological autopsies. However, no classes or specialized training exists pertaining to the process of doing a psychological autopsy. The task may now be thrust upon an "unsuspecting" psychologist who may suddenly find himself in the position of receiving a 7 days post-suicide suspense date to have a completed report for the Commanding General. This task will almost certainly come as an addition to an already busy daily schedule. This paper is provided to help others avoid this authors experience of "seeing one, doing one and teaching one".

The Purpose of Psychological Autopsies

Psychological autopsies have traditionally been used to clarify the mode of death in equivocal cases (deaths due to either "suicide" or "accident"). The procedure requires talking to friends, family, work associates and others who knew the deceased in an attempt to reconstruct the individuals life style, personal problems, personality and attitude of the deceased to his own death (Rudestam, 1979).

Presently DA policy requires a more broadened approach to psychological autopsies, these reports potentially serve to illuminate information which may enable future preventive actions to occur. They have value as an organizational tool; as a means of surfacing problems in the Army system at both local and general levels.

In most cases much information regarding a suicide can be determined easily. Often we can quickly know where a suicide occurred, when the suicide act took place, how the death happened and we can rapidly discover identifying information such as sex, marital status, race, age, rank, past schooling, awards, etc. Yet the most difficult question to answer is why this individual took his life. Psychological autopsies hold the most promise for answering this difficult question. The answers to this question hold the most promise for discovering possible future preventive actions.

The investigative nature of psychological autopsies provides a natural means of establishing contact with individuals in the victims life circle who maybe experiencing considerable emotional difficulty over the death event. This so called "postvention" serves as a nonobtrusive therapeutic vehicle for these individuals. It is a means of preventing additional suicides as the process serves as an obstruction to suicide contagion through identification and assistance offered to those most disturbed by the suicide.

The Classification of Suicide

A paper on the Operational Criteria for Classification of Suicide (OCCS) was presented at the Suicidology Convention in April, 1986 at Atlanta. This significant contribution to the study of suicide serves to provide a standard definition of suicide. Initially, a judgement of whether a suicide has occurred would appear to be clear-cut. Yet, closer consideration of acts which result in

death and a consideration of the complexity of human behaviors reveal the potential difficulty of accurately attaching a label such as suicide or accident. The OCCS cites two elements which are essential for a determination of suicide: 1) self-inflicted and 2) intent. It is important to recognize that intent is variable. The ambivalence which commonly attends suicidal acts can produce a wide range in degree of intention.

The draft form of the DA pamphlet on psychological autopsies describes several classifications of suicidal intention. They are: 1) first-degree suicide; deliberate, planned; 2) second-degree suicide; impulsive, under great provocation; 3) third-degree suicide; relatively harmless self-injury resulting in death, "unlucky" death. Self-inflicted deaths due to psychosis or high intoxication are typically not classified as suicides due to difficulty in assessing intention. Subintentional death pertains to an individual playing a covert or unconscious role in their death, for example, excessive risk-taking.

Despite the significant value of using criteria to obtain greater accuracy in reporting suicides it has been this investigators experience that suicidal behaviors can defy being neatly placed within the above stated boundaries. Nevertheless, utilization of such standards as the OCCS and a classification of suicidal intention is recommended for its inherent value.

Psychological Autopsy Procedures

Conducting a quality psychological autopsy requires several steps: 1) Data collection-interviewing friends, family, and work associates; reading military personnel files, personal materials, medical records, CID reports, etc. This effort is designed to obtain relevant facts and an understanding of the suicide victim. The ultimate quality and accuracy of the report is more dependent upon this step than any others. 2) Data analysis-selecting significant information from all sources and organizing it by category. 3) Writing the report in a thorough, logical and easily readable manner. 4) Obtaining a final typed report. 5) Disseminating the report to all appropriate parties providing debriefings as requested. 6) Conducting "postvention" activities throughout this process include therapeutic interactions with those most affected, and taking appropriate follow-up steps.

Preventive Aspects

Psychological autopsies serve a primary, secondary, and tertiary prevention role. Primary prevention i.e. reducing factors which increase stress, may be a natural outcome of psychological autopsies as problems are identified and command directs that ameliorative steps be taken. This authors third psychological autopsy was done on a foreign-born wife. The report ended with a statement of "need for continuing overall Army and Schofield Barracks efforts to assist foreign-born wives." This statement was underlined by CG. The Chief of Staff directed that a needs assessment of foreign-born wives occur. This effort then led to multiple steps to assist foreign-born wives, to include development of ethnic specific wives groups, multiple command briefings, organization of a foreign-born wives committee to address their needs and various other related steps. This illustrates the potential for command to enact initiatives which focus fundamentally upon stress reduction. Secondary prevention i.e. prompt treatment to minimize morbidity, is accomplished through postvention efforts wherein individuals at risk are identified and assistance provided. Tertiary prevention i.e. prevention of contagion, occurs as issues relating to the suicide are satisfactorily put to rest and the unit, friends, family and community continue to function.

Summary

Formerly, the process of completing a psychological autopsy involved a more limited amount of time. Now that they have become "institutionalized" the process deservedly requires much more effort. They serve multiple purposes. They are a means of providing a rich data base to learn more about suicide, they provide an objective assessment of whether or not a suicide occurred, they enable affected individuals to be assisted, they provide important information which has implications for future prevention actions. For these reasons, psychological autopsies deserve our best efforts as military psychologists.

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Relationships Between Parents'
Self-Reported Symptoms And Their Perceptions
Of Their Children's Symptoms:
Implications For Using Parent-Child
Rating Scales

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Abstract

The development and use of parent-child rating scales as a way to evaluate children is becoming very popular. Unfortunately, it's unclear as to what the scales measure (e.g., Do the scales describe the child and/or reflect the parent who completes the scale?). The present study examines the relationship between parent and child symptoms. The sample consists of 108 intact families who live in military housing at Fort Gordon, Georgia. The service members are on active duty in the Army and are either officers or senior enlisted personnel. The parents' symptoms, measured by using 7 of the 9 scales on the Hopkin's Symptom Checklist (HSCL) were correlated with parents' and teachers' ratings of their children by using the parent and teacher forms of the Child Behavior Checklist (CBCL). The teacher's rating of the child was used as an index of "accuracy" against which parent ratings of the child were compared. The results suggest that as parents become more symptomatic, their perception of their children's symptoms tend to change. The results also suggest that parents perception of their child's symptoms varies as a function of the sex of the child. The results are discussed in terms of the implications for building theories, using child-rating scales, and doing further research.

Introduction

The psychological assessment of children suspected of having a psychiatric diagnosis is time consuming and thus costly. An average evaluation includes (1) a social history, (2) a medical history, (3) an interview of the parents and child, (4) an interview of the child's teacher, and (5) a variety of psychological tests. To help save time and money, and to obtain standardized measures from parents and teachers, parent and teacher rating scales have become common tools in

many psychologist's armamentarium of tests. Some of the most popular rating scales are the Achenboch Child Behavior Checklist (CBCL) (Achenboch, 1978; Achenboch and Edelbrock, 1986), the Connors Rating Scales (Connors, 1969), the Louisville Behavior Checklist (Miller, 1977), the Personality Inventory for Children (PIC) (Lashor and Galowski, 1977), and the Burks Behavior Rating Scale (Burks, 1977).

Such parent rating scales have been the impetus for a plethora of psychological research. There have been many studies on both the reliability and validity of such instruments (Beitchman, et al, 1965; Herjaniz, et al, 1982; Stollak, et al, 1982). Some common results are (1) poor agreement between the responses of children and parents regarding children's symptoms, (2) time-related material tends to be more accurately reported by parents whereas information on children's moods tends to be more accurately reported by children, (3) specific questions about concrete and observable behaviors tend to be accurately reported by both parents and children, and (4) a mother's description of her child's symptoms tends to be very similar to her husband's description of those symptoms. Studies have also investigated rating scales of parents who have a psychiatric disorder (Weissman, et al, 1980). A typical finding is that parents who are diagnosed with an affective disorder tend to describe their children as oppositional and hyperactive rather than depressed, even though their children's self-report is consistent with a diagnosis of depression. Another study (Thompson, et al, 1982) evaluated the extent to which (a) marital distress, (b) parents' negative behavior toward their children, and (c) parents' tolerance threshold are related to their description of their children. The results revealed that these 3 factors were negligibly related to their description of their children.

The current study is part of a much larger ongoing study which examines rating scales and self-report instruments taken by both normal and clinical subjects. The present study is a preliminary analysis of one of the normal samples. The goal of this investigation is to explore the extent to which parents' symptoms as reported on the Hopkins Symptom Checklist are related to their children's symptoms as reported on both the parent and teacher forms of the Child Behavior Checklist. More specifically, the following questions are addressed in order to gain a better understanding of how parents' symptomatology is related to their perception of their children. What is the relationship between parents' symptoms and their children's symptoms? (Do children's symptoms tend to be correlated with the same or opposite sex parent? Do parents' symptoms tend to be correlated with the same or opposite sex child?) Do symptomatic parents "accurately" perceive their children as symptomatic? (In order to answer this question, the teachers' ratings of the children were used as an index of accuracy.) What specific parent symptoms are related to their children's symptoms?

Method

Subjects

The sample consisted of 108 intact families who were living in government quarters at Fort Gordon, Georgia. All of the fathers were commissioned or noncommissioned officer personnel on active duty with the U.S. Army. The parents were asked to complete questionnaires about

themselves and one child (ages 6-12 years). Out of 108 families, 101 mothers and 95 fathers completed their respective questionnaires. Fifty five mothers and fifty one fathers completed questionnaires about their sons and forty five mothers and forty four fathers completed questionnaires about their daughters. Ninety four teachers also completed questionnaires about these children.

Procedures

Two instruments were used, a version of the Hopkins Symptom Checklist (HSCL) and the Child Behavior Checklist (CBCL). The HSCL was given to both parents in order to assess their present psychological status. The HSCL was modified by deleting the paranoia and psychotic symptom subscales to better accommodate a non-clinical community sample (Derogative, et al, 1974). The CBCL for children ages 6-11 years was given to both parents and to their child's teacher in order to get measures of the child's symptomatic behavior. Table 1 lists the various factors (symptom scales) used on the HSCL and the CBCL by the rater (mother, father, teacher) and person being rated (mother, father, son, daughter). The parents completed the HSCL and the CBCL at home, independently of each other, and the teacher completed the CBCL at the school.

Insert Table 1 About Here

Analysis

Each father and mother rated themselves on the HSCL. They also rated either their son or daughter on the CBCL, and the children's teacher rated each child on the CBCL. These ratings were analyzed by correlating the parents' symptoms on the HSCL with the children's symptoms on the CBCL. The following variables were correlated: mother's HSCL with her rating and the teacher's rating of her son (CBCL), mother's HSCL with her rating and the teacher's rating of her daughter (CBCL), father's HSCL with his rating and the teacher's rating of his son (CBCL), and father's HSCL with his rating and the teacher's rating of his daughter (CBCL). These correlations were analyzed within 8 matrices: mother x son [mother report], mother x son [teacher report], mother x daughter [mother report], mother x daughter [teacher report], father x son [father report], father x son [teacher report], father x daughter [father report], father x daughter [teacher report]. Comparisons between rater, children rated, and parents' symptoms were made by using the percentage of significant correlations in Chi-Square Tests of Independence. Unfortunately, the investigators were unable at the present time to perform a more comprehensive analysis (e.g., testing the differences between teachers and parents perceptions when the parents fell in the clinical vs nonclinical ranges on the HSCL).

Results

A. Symptomatic Relations Between Parents and Children . .

Table 2 gives the actual number and percentage of significant correlations between parents' symptoms measured by the HSCL and their child's symptoms measured by the CBCL. For example, the number of

Insert Table 2 About Here

significant correlations between symptoms identified by mothers on the HSCL and their ratings of their sons on the CBCL in 44 out of a total of 63 correlations (7 symptoms from the HSCL x 9 symptoms from the parent rated CBCL or 8 symptoms from the teacher rated CBCL). In other words, 70% of the 63 correlations between mothers' self-reported symptoms and their ratings of their sons' symptoms were significant. These percentages will be used in Figures 1-3 in order to answer the questions which were asked above.

The first question addresses the relationship between parents self-reported symptoms and their children's symptoms which were rated by teachers.

An analysis of Figure 1 reveals that boys' symptoms are correlated

Insert Figure 1 About Here

with their fathers' symptoms significantly more than with their mothers' symptoms ($\chi^2 = 27.72$, $df = 1$, $p < .001$). These results suggest that the number of children's symptoms which are significantly correlated with the parent of the same sex is significantly greater than the number of symptoms correlated with the parent of the opposite sex. Therefore, as the child becomes more symptomatic the same sex parent will manifest significantly more symptoms than the parent of the opposite sex.

An analysis of Figure 2 reveals that according to teachers' reports, mothers' symptoms correlate with daughters' symptoms significantly more than with their sons' symptoms ($\chi^2 = 57.44$, $df = 1$, $p < .001$). It also reveals that fathers' symptoms are correlated with their sons'

Insert Figure 2 About Here

symptoms as much as with their daughters' symptoms (21% of the correlations between father's symptoms and his son's and daughter's symptoms were significant). Thus, on one hand, as daughters became more symptomatic their mothers became significantly more symptomatic than their father, and as sons became more symptomatic their fathers became significantly more symptomatic than their mothers. On the other hand, as mothers became more symptomatic their daughters became significantly more symptomatic than their sons; however, as fathers became more symptomatic their sons and daughters symptoms were negligibly effected.

B. Parental Perception of Children's Symptoms

The second question to be addressed is whether symptomatic parents modify their perception of their child's symptoms. Figure 3 suggests that the ability of

Insert Figure 3 About Here

both parents to evaluate their child changes as they become more symptomatic, however, the direction in which it changes (underestimates vs overestimates) varies as a function of gender. In other words, symptomatic mothers tend to perceive their sons as being significantly more symptomatic than the way in which teachers perceive their sons ($x^2 = 83.8$, $df = 1$, $p < .001$). Conversely, symptomatic mothers tend to perceive their daughters as being significantly less symptomatic than the way in which teachers perceive their daughters ($x^2 = 3.92$, $df = 1$, $p < .05$). The data also indicates that unlike mothers, symptomatic fathers tend to perceive both their sons and daughters as being significantly more symptomatic than the way in which teachers perceive these children ($x^2 = 9.80$, $df = 1$, $p < .01$ and $x^2 = 37.56$, $df = 1$, $p < .001$, respectively). These results suggest that symptomatic mothers overestimate their sons symptomatology and underestimate their daughters symptomatology, while symptomatic fathers tend to overestimate the symptomatology of both their sons and daughters.

The next question to be addressed is in what ways do symptomatic parents alter their children's symptoms. An analysis of Figure 2 suggests that as parents become more symptomatic, their perception of the opposite sex child tends to change more than their perception of the same sex child. According to mothers, as they become more symptomatic, their sons become significantly more symptomatic than their daughters ($x^2 = 14.80$, $df = 1$, $p < .001$); however, according to teachers, as mothers become more symptomatic their daughters become significantly more symptomatic than their sons ($x^2 = 28.72$, $df = 1$, $p < .001$). In fact, according to teachers' perceptions of boys, there is almost no relationship between a mother's symptoms and her son's symptoms. According to fathers, as they become more symptomatic their daughters become significantly more symptomatic than their sons; however, according to teachers, as fathers become more symptomatic their sons and daughters become equally symptomatic. In fact, teachers perceptions suggest that changes in father's stability does not have much of an impact on either the stability of his son or daughter.

C. Identification of Specific Symptom Correlates

In order to examine child symptoms by specific parent symptoms, teacher ratings of children were once again used as an index. Parents' self-reports on the HSCL yielded scores on 7 dimensions (symptoms) which were correlated with the teachers' ratings of their children on 8 dimensions (symptoms) of the CBCL. The data analysis consisted of an examination of the number of significant correlations between the specific symptoms of a parent and the total number of symptoms manifested by the child. Table 3 contains the percentage of children's symptoms which were significantly correlated with each dimension (parent's symptom) on the HSCL. For example, the number of significant

Insert Table 3 About Here

correlations between a father's somatic symptoms and his son's symptoms is 2 out of a total of 8 possibilities. In other words, 25% of the correlations between father's somatic symptoms and his son's symptoms are significant.

An examination of Table 3 indicates that very few of father's symptoms were significantly correlated with his son's symptoms, except for hostility. Thus, as a father became more hostile, his son became more symptomatic. The total number of significant correlations between a father's and daughter's symptoms is 12 which is the same number of significant correlations found between a father's and son's symptoms; however, fathers and daughters differ from fathers and sons in that father's hostility appears to be related to his son's symptoms but not to his daughter's symptoms. Only one of mother's symptoms was correlated with any of her son's symptoms, namely her somatic complaints. Thus, as a mother develops somatic complaints, her son becomes more symptomatic. In contrast to the correlation between the small number of significant correlations between a mother and her son, the data reveals a large number of significant correlations between a mother and her daughter. Thus, when mother becomes symptomatic, her daughter also develops some symptoms. The highest number of significant correlations was between a daughter's symptoms and her mother's symptoms of depression and anxiety.

Further analysis of the relationship between fathers' hostile symptoms and their sons' symptoms as perceived by the father indicates that father's hostility is significantly correlated with his son's hyperactivity, delinquency, aggressiveness, and anxiety (schizoid-anxious dimension). The son's symptoms which are not correlated with his father's hostility are depression, uncommunicative behavior, obsessive-compulsive behavior, somatic complaints, and social withdrawal. These results indicate that as fathers become more hostile, they perceive externalized symptoms in their sons rather than internalized or mixed symptoms.

Discussion

This study suggests that as parents become symptomatic, their perception of their children tends to change. As mothers become symptomatic, they perceive their sons as being much more symptomatic than their daughters. In contrast to these perceptions, teachers perceive daughters being much more symptomatic than sons whose symptoms do not appear to be related to their mothers' symptoms. As fathers become symptomatic they perceive their daughters as being more symptomatic than their sons. Once again, the teacher's perception differs from the father's perception. The teacher perceives father's symptoms being equally related to both sons and daughters, and the extent to which they are related appears to be negligible. Another finding is that fathers' hostile symptoms are related to their sons but not their daughters and mothers' depressive and anxious symptoms are related to their daughters but not their sons.

There are numerous implications from this data for: (1) building a theory, (2) using parent-child rating scales, and (3) doing further research. For example, these results can be explained from at least two major theoretical perspectives, namely an empiricist perspective and a constructivist perspective. From an empiricist point of view, reality

is assumed to be objective and to exist independent of the observer. Assuming that the teacher accurately perceives reality (the child), an empiricist would conclude that as parents become more symptomatic their perception of their children's symptoms become distorted. A symptomatic mother tends to distort her perception of her son's symptoms significantly more than she distorts her perception of her daughter's symptoms. The opposite is true for fathers, namely a symptomatic father tends to distort his perception of his daughter's symptoms significantly more than he distorts his perception of his son's symptoms. Elaborate explanations could be generated to explain such distortions (e.g., Oedipus lives). From a constructivist point of view, reality is assumed to be a construction and does not exist independent of the constructor. Thus, from a constructivist perspective, perception of reality is neither accurate nor inaccurate because reality is a construction (it's relative). A symptomatic mother's perception of her son is as accurate/real for her as a symptomatic father's perception of his daughter is for him, and as a teacher's perception of a child is for her/him. Once again an elaborate explanation can be "constructed" (e.g., pathology is a function of the relationship rather than the individual).

Regardless of one's theoretical orientation and inspite of an incomplete data analysis, these results suggest that one must be cautious using parent-child and teacher-child rating scales. Using these scales independent of corroborative data from other standardized measures may result in an inaccurate diagnosis or in a diagnosis which is not generalizable outside of the parent-child relationship. One must always keep in mind that the results of such a rating scale may be due to a symptomatic rater (empiricist) and/or to the rater-child relationship (constructivist).

The current study tends to generate many more research questions than it answers. One question is to wonder what the data would look like if the numerous demographic data (e.g., father's work, parent's age, child's birth order, parent's education) were used as a control for further analysis. Another question concerns the comparison of the current sample with other samples. Data is currently being collected from 3 other samples, namely an off-post community sample N=100, a child psychiatric sample N=100, and a sample of children diagnosed with an Attention Deficit Disorder-Hyperactivity N=100. A third question concerns the use of other statistical analyses such as MANOVA and Multiple Regression in order to make more comparisons and to account for the variance between rater, children who were rated, and parents' symptoms. Such analyses are currently being held for the future.

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TABLE 1
Factors (Symptoms) x Instrument x Ratee x Rater

Instrument:	Hopkins Symptom Checklist		Child Behavior Checklist					
			Son			Daughter		
	<u>Mother</u>	<u>Father</u>	<u>Mother</u>	<u>Father</u>	<u>Teacher</u>	<u>Mother</u>	<u>Father</u>	<u>Teacher</u>
Ratee:								
Rater:								
Factors:								
		Somatic	Depression	Depression	Obsessive Compulsive	Depression	Depression	Depression
		Obsessive	Social-Withdrawal	Social-Withdrawal	Social-Withdrawal	Social-Withdrawal	Social-Withdrawal	Social-Withdrawal
		Interpersonal Phobic	Somatic	Somatic	Anxious Nervous	Somatic	Somatic	Anxious Nervous
		Depressive Anxious	Schizoid-Anxious	Schizoid-Anxious	Overactive Inattentive	Schizoid-Anxious	Schizoid-Anxious	Overactive Inattentive
		Hostile	Hyperactive-Compulsive	Hyperactive-Compulsive	Self-Destructive	Hyperactive Sexual Problems	Hyperactive Sexual Problems	Self-Destructive
			Delinquent Aggressive Uncommunicative	Delinquent Aggressive Uncommunicative	Unpopular Aggressive	Delinquent Aggressive Cruel	Delinquent Aggressive Cruel	Unpopular

TABLE 2
The Percentage of Significant Correlations Between
Parents' Self-Reported Symptoms and Children's Symptoms
Reported by Parents and Teachers

HSCL	CBCL					
	Son CBCL			Daughter CBCL		
	Mother	Father	Teacher	Mother	Father	Teacher
Mother's HSCL	70%(44/63)	--	7%(4/56)	43%(27/63)	--	57%(32/56)
Father's HSCL	--	38%(24/63)	21%(12/56)	--	60%(38/63)	21%(12/56)

() = absolute value, (e.g., 44/63 = 44 significant correlations out of a total of 63 correlations)

TABLE 3
Percentage of Children's Teacher-Rated Symptoms
Significantly Correlated With Parents' Symptoms

Child/Parent	HSQ Symptoms						
	Somatic	Obsessive	Interpersonal	Phobic	Depressive	Anxious	Hostile
Son: Father	25%(2/8)	25%(2/8)	13%(1/8)	0 (0/8)	13%(1/8)	13%(1/8)	63%(5/8)
Daughter: Father	38%(3/8)	0 (0/8)	13%(1/8)	38%(3/8)	38%(3/8)	25%(2/8)	0 (0/8)
Son: Mother	50%(4/8)	0 (0/8)	0 (0/8)	0 (0/8)	0 (0/8)	0 (0/8)	0 (0/8)
Daughter: Mother	50%(4/8)	50%(4/8)	13%(1/8)	63%(5/8)	75%(6/8)	88%(7/8)	63%(5/8)
							Total
							21%(12/56)
							21%(12/56)
							7%(4/56)
							52%(34/56)

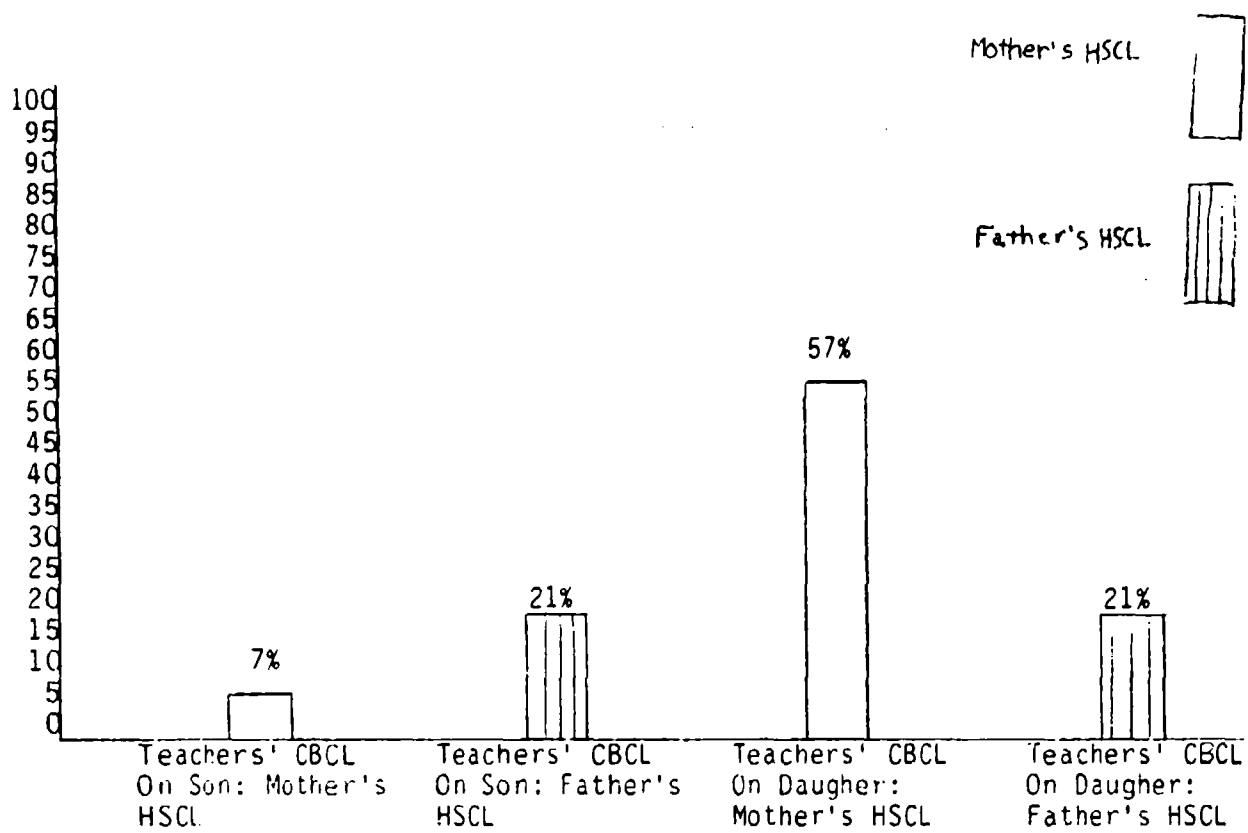


FIGURE 1
 Percentage of Significant Correlation (Out of Total Number of Correlations)
 Between Parent And Child Symptoms
 As a Factor Of The Parents' Self-Rated Symptoms

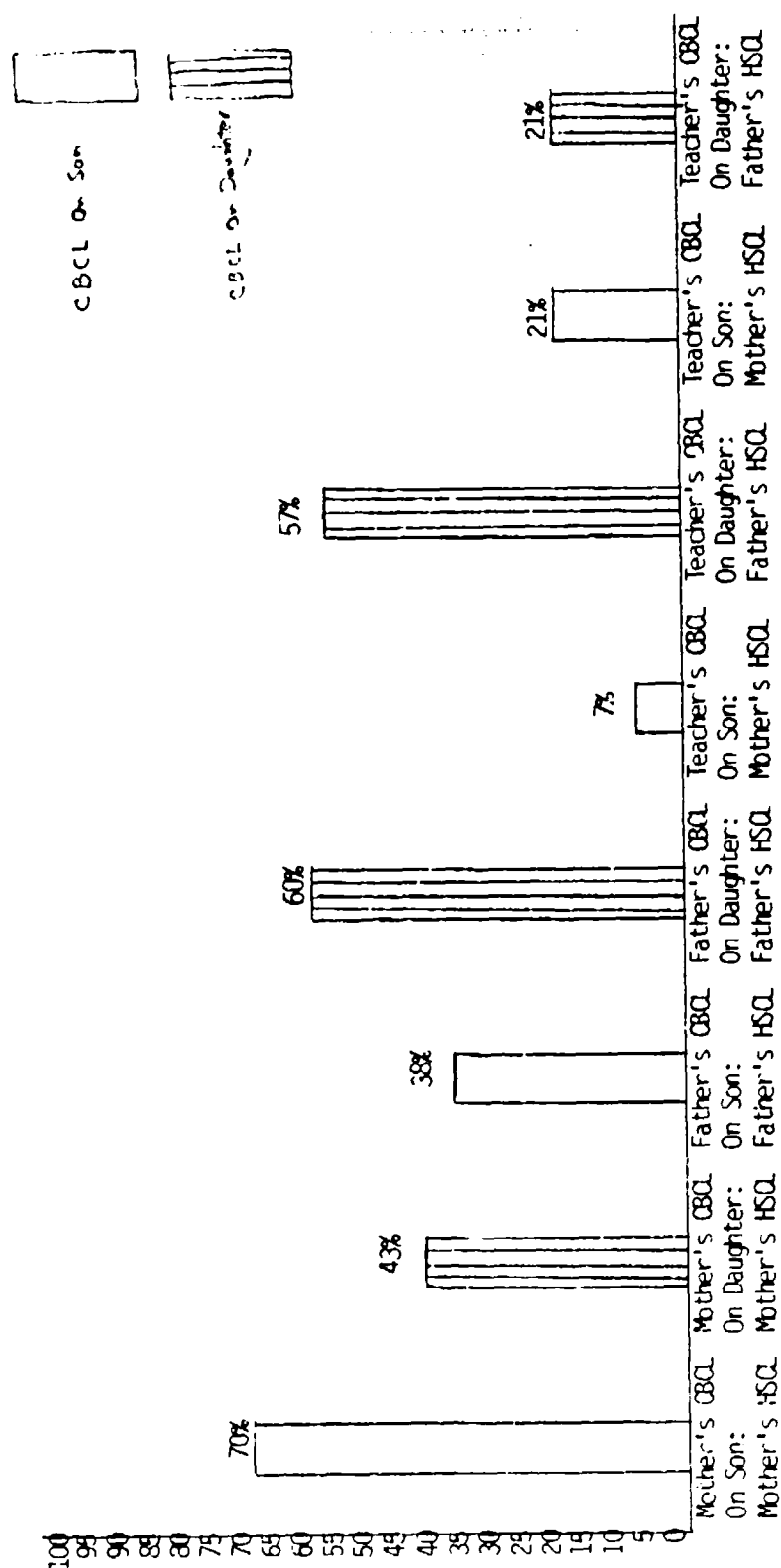


FIGURE 2
Percentage of Significant Correlations (Out of Total Number of Correlations)
Between Parent and Child Symptoms As A Function of the Child's
Symptom Ratings

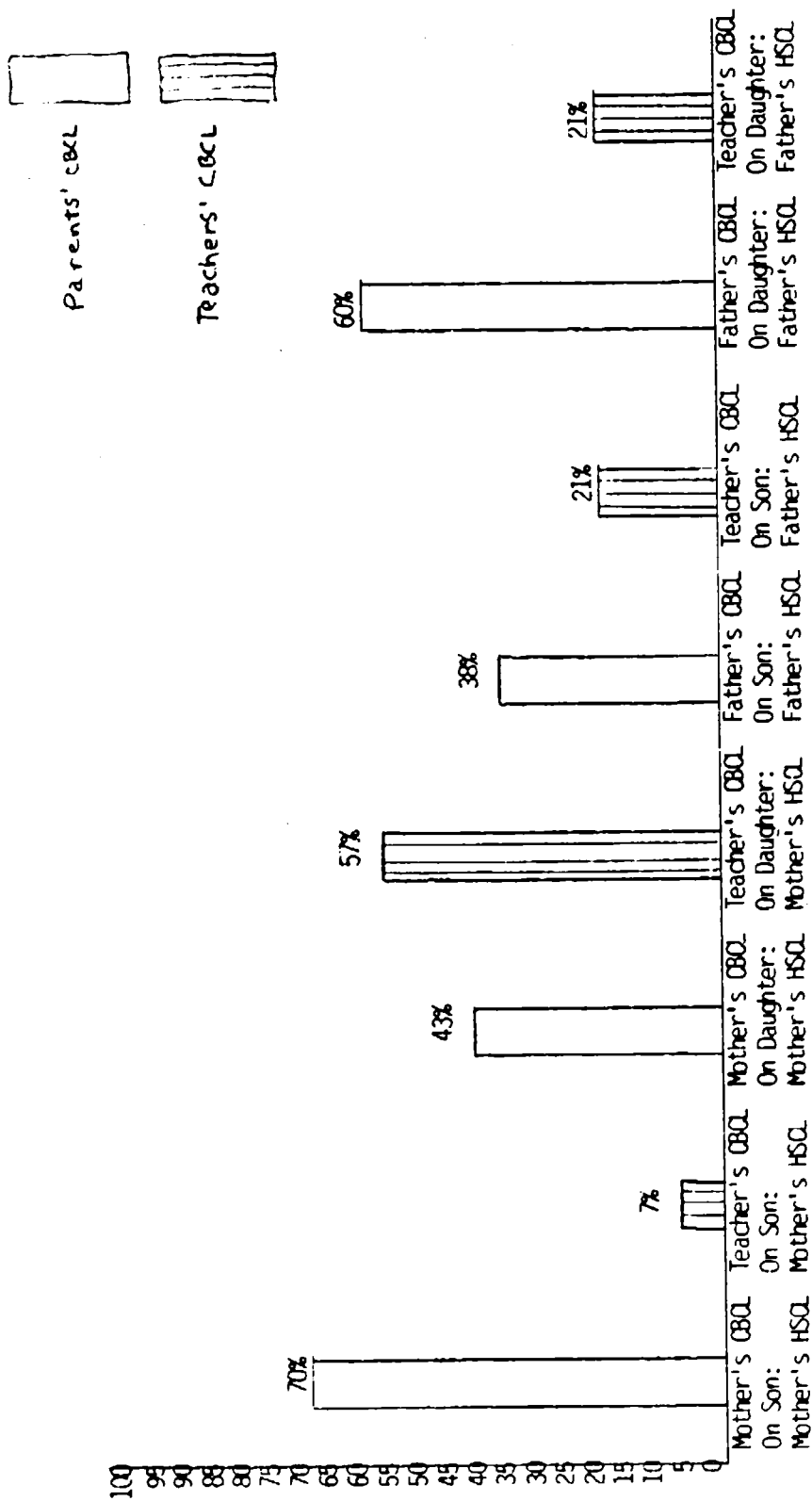


FIGURE 3
Percentage Of Significant Correlation (Out of Total Number Of Correlations) Between
Parent and Child Symptoms As A Function Of The
Person Rating The Child

AD-P005 579

Stress, Stressors, Morale:
An 8th Infantry Division
(Mechanized) Post-REFORGER Study

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Abstract

Central Guardian, the winter REFORGER of 1985 provided Blue and Orange Forces the opportunity for Division-level combat training during a very cold and snowy German January. The combination of intense training and demanding weather conditions created a superb test for units and soldiers alike. What stressors predicted the overall stress experienced by soldiers? Did combat soldiers show higher stress levels than their combat support counterparts? Was morale affected by whether the unit was on the offensive or defensive? These and other questions relating to stress levels, stressors, and morale were asked during a post-REFORGER study. The findings are discussed in relation to how commanders can better prepare their units for the stresses involved in a major training exercise.

Regardless of the sophistication level of an army's technology, that army's fighting effectiveness is always dependent on the abilities of the soldiers who service and exploit that technology. Thus, stress and morale play important roles in the ultimate outcome of training exercises or real wartime battles. As Richardson (1978) noted, "Man is still the first weapon of war and the morale

of the soldier is the most important single factor in war.'" Knowing which soldiers are most stressed and what stressors are most potent, together with an understanding of how morale shifts during an exercise can all serve to aid the commander in preparing his soldiers to perform optimally over time -- during an exercise or during actual combat. Examination of these issues was accomplished by questioning 320 soldiers of the Blue Forces following their participation in Central Guardian, the winter REFORGER of 1985. 151 questionnaires were completed by Unit A, a USAREUR-based brigade. 97 questionnaires were completed by Unit B, a CONUS-based, active-duty brigade. 72 questionnaires were completed by Unit C, a CONUS-based, Reserve battalion (Table 1 provides a further breakdown of the sample population).

Realizing that Blue Forces were made up of many types of units, that is, some from USAREUR, some from CONUS, some from the Reserves, it was decided to question whether these units showed differences in the overall personal stress experienced. Comparisons among the three major units revealed no differences in the ratings of overall personal stress. This finding is surprising. The initial thought was that soldiers coming all the way from the States would incur more stress than soldiers stationed in Europe. In a related study, Rock (Valdez, 1985) found that soldiers coming over from CONUS during the 1983 REFORGER suffered proportionately fewer stress-related illnesses than the soldiers who lived in Germany. Findings from both these studies are not immediately explainable. Commanders could greatly benefit from knowing whether their soldiers are more vulnerable than others to stress based on the origin of the unit. Clearly, more research into this issue is needed.

Differences in overall personal stress levels were found between types of soldiers rather than units. Soldiers in combat support units reported significantly higher overall personal stress during Central Guardian than did their counterparts in combat units (Table 2). What might account for such a difference? Were combat support soldiers "less tough" than combat soldiers? Or, were there substantial differences in the situations faced by the two groups? Although this study cannot make a definite attribution of cause, some of the findings in this study strongly suggest that during an exercise like REFORGER, the combat support soldier actually faces more stress than his combat soldier counterpart. Despite 75% of the study's sample population being combat soldiers, 50% of the total sample believed combat support soldiers experienced more stress. Combat support soldiers were perceived to have more work to do. Combat soldiers "played" their roles during daylight hours. Support soldiers also played out the battlefield scenario, for example, wearing MOPP gear, "jumping" locations, providing area security. In addition, these soldiers were involved in performing their actual wartime missions: meals were prepared; fuel was provided; vehicles were repaired; water was purified, etc. In other words, the REFORGER exercise is a far more "real" and demanding

exercise for support soldiers than for combat soldiers. The higher stress levels reported by support soldiers reflects a very real difference in the demands encountered by these soldiers compared to their combat brethren. It is all too easy for commanders and researchers alike to focus attention on the "fighting" soldiers during an exercise. The findings of this study point out that such a focus can be misguided and ultimately very costly. During an extended training exercise the commander would be well advised to base his assessment of soldier morale on the status of his support soldiers.

Specific stressors were examined in addition to overall stress levels. Soldiers rated the importance of each of the following stressors: Lack of sleep; Amount of work; Separation from family; Food; Weather; Communication; Boredom; Personal hygiene; Uncertainty. Of these nine stressors only three showed significant power in predicting the overall stress ratings. These stressors were "Lack of sleep," "Amount of work," and "Uncertainty." Lack of sleep and Amount of work are two stressors that go hand in hand. It is improbable that future training or actual combat will involve "less work" to be performed. And with increased work demands come reduced sleep periods. This is hardly new or startling. However, the importance of this information for commanders is that it enables them to know in advance the problems most predictive of stress and thus, gives them the opportunity to prepare soldiers to cope better. One method of enhancing coping is by heightening awareness. If soldiers are aware that work will be plentiful and rest a luxury once in the field, they can be guided to realistic expectations and more adaptive behaviors, such as the adoption of sleep shifts. Heightened awareness by itself is rarely sufficient in reducing stress. An actual change in behavior is typically required and this translates into command emphasis and command example. The deficits in performance due to lack of sleep are well documented (Manning, 1979) and are most pronounced for those in leadership positions. Yet the tradition of being "tough" and not sleeping is one that dies very hard. At some point leaders must break through this taboo and set the example. Adoption of sleep shifts serves both the soldier and the mission.

"Uncertainty" is a stressor that will also always be with the soldier during an exercise or combat. Anyone in an uncertain situation looks to find ways of feeling in control and secure. It is during times of great uncertainty that a soldier's confidence in his unit and chain of command is truly tested. Commanders must ensure that each soldier understands that clarity and certainty of action will be rare for everyone during an exercise. Extended training exercises like Central Guardian bring with them the enhanced dual demands of trusting the chain of command and acting on one's initiative. The micromanagement that often characterizes garrison life will suddenly be replaced by much greater responsibility and freedom of action. Such a shift opens the door to great amounts of stress from "Uncertainty." Commanders are not immune to such shifts them-

selves. The need to develop realistic expectations of what they can and cannot control once in the field is, of course, part of the training process but much can be done prior to leaving garrison. Soldier's can carry realistic expectations into an exercise rather than be forced to develop them -- at great cost -- once in the field.

Rather surprisingly, "Boredom" and "Separation from family" were the stressors rated least important. Are these stressors truly insignificant or have commanders' efforts on these concerns begun to pay dividends? Boredom can be a problem during some training and during "lulls" in battle. Central Guardian's time table was demanding and a good case can be made that this REFORGER kept soldiers busy and on the move. With the weather being cold, most units could maneuver with little restriction, thus eliminating much dead time and ensuring soldiers were active. "Separation from family" is not a very weather-dependent stressor and from past experience (Manning, 1979) one that is important to many soldiers, particularly those stationed in Europe. While it is difficult to say why this stressor proved less important than most, it is believed that much has been done by the Army to improve the care given families. Only a few years ago the Army simply expected soldiers to take care of their family's needs prior to leaving on an exercise. Prior to Central Guardian it was commonplace for battalion-size units to organize activities specifically designed to aid spouses in preparing for the upcoming separation. Representatives from the various community support services speak to spouses and soldiers on what they can expect to have happen over a long separation and what help is available. Awareness of the role that families play in their command has been greatly heightened for commanders over the past few years. This enhanced awareness has generally been matched by greater command emphasis on preparing families as well as soldiers for long separations.

"Weather" proved to be a remarkably non-significant stressor. This was clearly not due to warm weather. The weather for Central Guardian was ideal: cold and snowy. Again, attribution of cause is difficult but some educated speculation based on extensive observation both prior to and during REFORGER is warranted. Command emphasis on the prevention of cold weather injuries was strong and extensive. Commanders could ill-afford the presentation of cold weather injuries from their units. Command's emphasis on the prevention of cold weather injuries probably had a direct impact on the importance of "Weather" as a stressor.

Morale showed considerable variation during the exercise. The common-sense view of a training exercise would suggest that morale would be highest during Redeployment, when the vast majority of the work is completed and everybody gets to go home. The data bear out this view. Throughout all sample subgroups, morale is highest during Redeployment (Graph 1). Morale during Deployment was not significantly lower than during Redeployment. Again, a common-sense appraisal of this finding seems most fitting. Most soldiers get "geared-up" for an exercise where they get to practice being "real"

soldiers.

Morale took a considerable and significant drop during both the Defense and Offense phases of REFORGER (Graph 1). The results suggest that the distinction made between Defense and Offense is unwarranted. Morale is the same for both "phases." Hence, an "operations" phase encompassing both Offense and Defense probably fits more closely with the soldiers' conception of REFORGER. Historically, morale is distinctly higher for soldiers "on the attack" than it is for those "on the defensive" (Strock, 1976). "Gaining ground," "moving forward," "pushing the enemy back" -- all are associated with being on offense and typically relate to enhanced soldier morale. Conversely, when soldiers are "on the defensive" and "being pushed back" morale usually suffers. The findings of this study indicate that soldiers see no distinction between Offense and Defense. Rather, in terms of morale, soldiers view Offense and Defense on an exercise as one reality, one that is more a matter of work and endurance than of winning and losing. Thus, commanders should be wary of trying to motivate troops by referring to the current exercise tactical situation.

Despite the difference in overall stress ratings by combat versus support soldiers, morale ratings of these two subgroups showed no difference.

From the list of summary descriptors (appendix 1), soldiers' choices tend to reinforce the other results (Graph 2). Soldiers often chose "tiring," "stressful," "frustrating," and "disorganized" as the best descriptors of their REFORGER experience. Disorganization will be felt most by those of the lower ranks who experience first-hand the endless and seemingly irrational changes inherent in conducting field maneuvers on a Division level. This reinforces the need for commanders to inoculate soldiers against unreal expectations of clarity and certainty while in the field.

There were some interesting differences among the major units on the choice of descriptors (Graphs 3,4,5). Both Unit B and Unit C report a much greater sense of "disorganization" than Unit A. On the other hand, Unit A soldiers report a much greater sense of REFORGER being "professional," "educational," and "informative." It is believed these differences stem mostly from the fact that Units B and C were "stepchildren" of the 8th ID(M), while Unit A was a "natural child" of the division. Units B and C had to travel clear from the States and be spliced into the division, a unit they are relatively unfamiliar with. It is realistic for these spliced units to feel more tired and disorganized than Unit A. What lessons can be learned? Every attempt at communicating the policies and standards of the gaining unit should be made prior to the exercise. A poor transition by the units from the States can be extremely costly in terms of battle readiness.

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TABLE 1

The Sample Population

The questionnaire (Appendix 1) was given to 320 soldiers of the Blue Forces, Central Guardian, the winter REFORGER of 1985.

- 1) The sample was comprised of soldiers from three major units:
 - Unit A: 151 soldiers from a brigade of the 8th ID(M)
 - 124 or 82% of respondents from combat arms units
 - 27 or 18% from combat support units
 - Unit B: 97 soldiers from an active-duty, CONUS brigade
 - 64 or 66% of respondents from combat arms units
 - 33 or 34% from combat support units
 - Unit C: 72 soldiers from a CONUS Reserve battalion
 - 54 or 75% of respondents from combat arms units
 - 18 or 25% from combat support units
- 2) Of the 320 soldiers sampled, 12 were female.
- 3) The mean age of the sample was 25.9 years. The range was from 18 to 58 years.
- 4) The mean rank of the sample was E-5. The range was from E-1 to O-3.

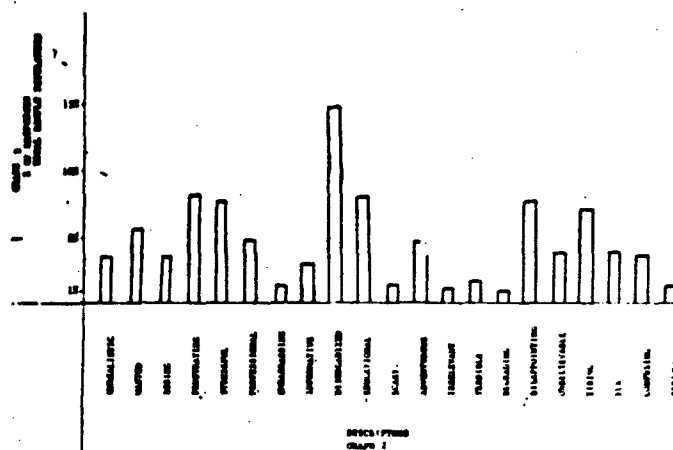
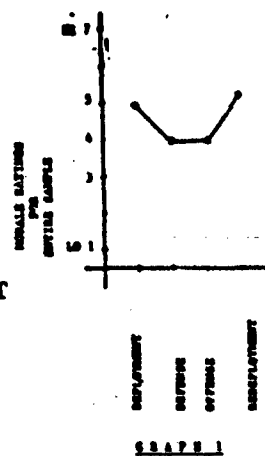
TABLE 2

Comparison between combat arms unit soldiers and combat support unit soldiers on overall personal stress rating.

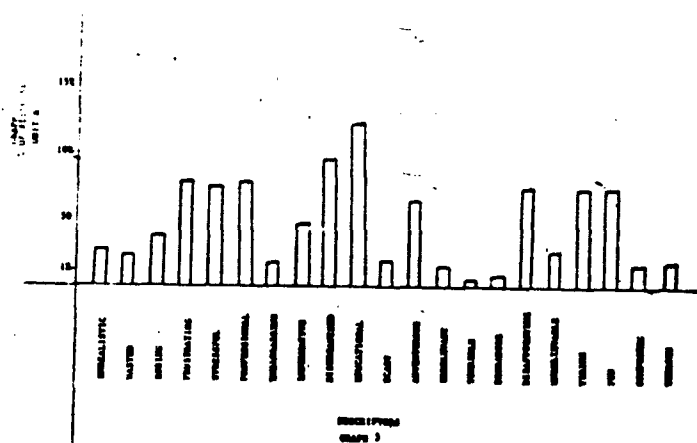
GROUP	MEAN OVERALL STRESS RATING ON 1 to 7 scale
Entire sample	4.41
Combat arms	4.26
Combat support	4.87

Difference is significant
at $p < .05$

GRAPH 1
MORALE RATINGS THROUGHOUT
REFORGER PHASES



GRAPH 2
DESCRIPTORS ACROSS TOTAL SAMPLE POPULATION



GRAPH 3
DESCRIPTORS FOR UNIT A

Post-REFORGER Questionnaire

State the work factor you believe your unit is now capable of performing. Give each unit station on a scale of 1-5 where:

Unit	1	2	3	4	5
1st Squad					
2nd Squad					
3rd Squad					
4th Squad					
5th Squad					
6th Squad					
7th Squad					
8th Squad					
9th Squad					
10th Squad					
11th Squad					
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97th Squad					
98th Squad					
99th Squad					
100th Squad					

STUDY ON AN INNOVATION IN MILITARY PSYCHIATRY:
APPLICATION OF THE CONCEPTS OF COMBAT PSYCHIATRY
TO THE FORT HOOD PSYCHIATRIC DAY HOSPITAL

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Ann E. Norwood, M.D.

→ A psychiatric day hospital was opened at Darnall Army Community Hospital at Fort Hood, Texas on June 1, 1986, with a goal of optimizing the treatment of soldiers by applying the principles of combat psychiatry. This is the first time a psychiatric day hospital has been operational at Fort Hood, although a full-time psychiatric ward has existed since 1945. In fact, there are no published studies nor descriptions of psychiatric day hospitals in military settings in the United States. → The operation of one psychiatric day hospital in military settings was informally identified by the authors. The Army hospital serves 190,000 eligible personnel in the Central Texas area and at Fort Hood, which is the largest "military base" in the Western world.³ → The task was to take existing treatment technology in the partial hospitalization field and implement it in form and function consistent with both optimal patient care and Army mission objectives.

As background information this paper reviews the effectiveness of psychiatric day hospitals in civilian settings. The application of the principles of combat psychiatry was intended to optimize soldiers' psychiatric treatment by reducing their length of hospitalization and keep them more closely associated with their units. This is important since these principles represent the "lessons-learned" in psychiatry, psychology, and social work from previous wars. However, there is confusion in the combat psychiatry literature and in Army doctrine about what these basic principles are. Thus, this paper also reviews the traditional basic principles of combat psychiatry and presents our revisions by identifying the organizational and treatment implications of the principles. The revised principles were then applied to our day hospital and can serve as a foundation for further developments. →

THE TRADITIONAL PRINCIPLES OF COMBAT PSYCHIATRY

The three basic principles of combat psychiatry were developed by Thomas W. Salmon (1919, 1929) based on his W.W.I experiences with American forces in France. Recent authors have cited these principles in the treatment of battle fatigue: "immediacy, proximity, and expectancy (Hausman & Rioch, 1967; Glass, 1969; Bourne, 1970; Coleman & Broen, 1972)" (Sohlberg, 1976). The most recent review of military psychiatry (Ursano and Holloway, 1985, p.1903) cited two additional principles: centrality and simplicity. They stated, "in the most forward area, immediately adjacent to the ongoing combat, the organizational principles of immediacy, proximity, centrality, and simplicity are critical." Whether these five principles should be conceptualized as principles of organization or therapy is not clear in the literature. This fifth principle (simplicity) of therapy is based on

the value of brief, simplified methods aimed at restoring the soldier to his previous level of competency "with little attention paid to the remote past or analysis of personality for explanations of the present breakdown"... "Whenever possible, firm, structuring, and conclusive language must be used to resolve the situational ambiguity" (Baker, 1975). In his review article, Glass (1955, p. 32) emphasized three principles of therapy (decentralization, expectancy, and brief, simplified methods of treatment). The concept of decentralization had four components: immediate treatment before a temporary condition turned into a chronic neurosis, forward level of therapy, clinicians forward involvement in the combat situation, and avoiding the evacuation of psychiatric casualties as much as possible. This concept provides the logical basis for a psychiatric day hospital. He stated (Glass, 1955, p. 31):

"The doctrine of decentralization has also been successfully applied to non-combat or peacetime psychiatric disorders by the utilization of mental hygiene units which treat patients on a duty status, while they are still struggling with situation problems, thus preventing hospitalization and its almost inevitable adverse complication of gain in illness."

A sixth principle has been "respite" or physical replenishment which involves providing water, food, and rest (Belenky, Tyres, and Sodetz, 1983, p. 14). The descriptions of lessons-learned from W.W.I, W.W.II, and the Korean War by Glass (1954, 1955) indicate there are two more principles of combat psychiatry: milieu therapy and clinician's identification with the combat group. In his later review, Glass (1969) discusses these principles from a similar theoretical perspective. Two more principles can be added to the basic eight based on papers by Ingraham & Manning, 1979 (using cohesion, unit morale, esprit-de-corps) and Sohlberg, 1976 (enhancing ego-involvement in war and commitment to one's country). Unit morale is such a critical group psychological process in military settings that the high unit morale and cohesion of the Israeli Army is considered their "secret weapon" (Belenky, et. al., 1983). Commitment to the soldier's unit and concurrence of the group were group processes noted by Bushard (1975) and Hausman and Rioch (1967).

REVISED PRINCIPLES OF COMBAT PSYCHIATRY

To the ten principles of combat psychiatry identified in the literature review presented, two "treatment" principles of confrontation and catharsis are added. All twelve principles of combat psychiatry are described in Table 1. Some authors/researchers emphasize organizational aspects of the principles and thus classify them as principles of organization. Others emphasize the treatment implications and classify them as principles of treatment. The view of the current authors is that the principles have both organizational and treatment implications as outlined in Table 1. The way in which each principle was applied to the psychiatric day hospital at Fort Hood is outlined in the last column in Table 1.

The principles of combat psychiatry from a treatment point of view are relevant to various types of symptoms in several qualitatively different domains. According to Mac Donough (1981), there are five domains or aspects of personality, called response systems. The five response systems (cognitive, emotional, behavioral, physical, and spiritual) are outlined in Table 2. The focus of traditional principles of combat psychiatry is indicated in Table 2 and the focus of the added principles is presented in the third column.

There seems to be an unstated assumption that immediate, short-term treatment cannot be intense. The myth is that short-term treatment needs to be simple and low-intensity. Thus, the literature reviewed on combat psychiatry stresses the need for simple, verbal counseling in the context of "respite" (resting) and a physically-supporting milieu. There is no emphasis on intensive, immediate types of interventions that might involve subtle mixtures of emotional support and intense confrontations, the effects of limited catharsis, and optimizing the effects of peer cohesion within the treatment setting by using the group therapy modality. However, current Army policy (Headquarters, Department of the Army, 1984, p. 2), states:

"Those casualties who need longer treatment (than 96 hours) will be evacuated to a more definite treatment program at NP facilities in direct support of the unit. This can be accomplished by providing a holding capacity and intensive restorative treatment program of up to two weeks." (*italics ours*)

As can be seen in Table 2, the traditional principles of combat psychiatry emphasized changing cognitive and physical domains or symptoms. There is a need to address the types of modalities and techniques that primarily change emotional, behavioral, and spiritual symptoms.

Confrontation as a modality and as a specific clinical technique has been neglected in clinical practice and the literature as reviewed by Mac Donough (1976, 1978). Given the base rate level of soldiers that require confrontation during peacetime, there is no a priori reason to assume that less confrontation will be required when the psychological stresses of combat and being in combat theaters will increase. In his work on W.W.II, Stouffer, et. al., (1949) identified 14 common combat-related stresses (Table 3). A current list of scales to evaluate PTSD and war experiences was presented by Watson, Kucala, and Manifold (1986) and recently combat stresses were analyzed by Laufer (1985). In his description of effective psychotherapy in combat zones, Glass (1954, p. 725) noted that "best results were obtained by single treatment methods that included rest, food, encouragement, suggestion, and persuasion".

The usefulness of catharsis was verified in treating soldiers in Israel (Belenky, Tyner, and Sodetz, 1983, p. 14). The critical role of catharsis in treating soldiers during combat was cited by Brown (1920) who treated 3,000 cases of psychoneurosis in W.W.I and Shorvon and Sargent (1974) who treated soldiers in W.W.II. United States soldiers in Vietnam were also helped by cathartic procedures during treatment sessions (Bourne, 1970, p. 498), after the war on active duty (Mac Donough, 1983), and as veterans (Smith, 1985, pp. 154-155).

BACKGROUND ABOUT PSYCHIATRIC DAY HOSPITALS

Our understanding of the broad range of activities covered by the term "partial hospitalization" follows Katz's (1985) definition:

"partial hospitalization includes both day and night hospitalization and, less frequently, evening and weekend hospital care. Despite the fact that there is at present no widely accepted definition, the American Association for Partial Hospitalization defines partial hospitalization as an ambulatory treatment program that includes the major diagnostic, medical, psychiatric, psychosocial and prevocational treatment modalities designed for patients with serious mental disorders who require coordinated intensive, comprehensive and multi-disciplinary treatment not provided in an outpatient clinic setting."

Dibella, Weitz, Poynter-Berg, and Yurmark (1982) more specifically defined the term as follows (their italics):

"Partial hospitalization is a psychiatric treatment program of eight or more hours per week for a group of six or more ambulatory patients, provided by two or more clinical staff, and consisting of interconnected therapies within a therapeutic milieu."

Herz (1980) as well as Katz (1985) both succinctly described the development of psychiatric day hospitals as summarized in Table 4. The first Israeli day hospital was established in conjunction with a psychiatric hospital (Ramot and Jaffe, 1964) and the second Israeli day hospital was associated in 1968 with an outpatient clinic (Fried and Brull, 1972). By 1980 there were 1,450 programs with more than 250,000 patients. However, only about 3% of all psychiatric treatment is provided through partial hospitalization programs (Dibella, et. al., 1982, p. vi).

Overall, psychiatric day hospitals can be seen as being on a continuum of psychiatric treatment programs with the full-time care being provided by 24-hour psychiatric wards. Evening hospitals, night hospitals, and day hospitals may be associated with the psychiatric wards or separate programs. Less intensive care is provided by day care for custodial units, half-way houses, sheltered workshops, and work camp houses. At the least-intensive end of the spectrum are ex-patient clubs and family home-care programs. This continuum of psychiatric care programs is outlined in Table 5. The sequence of intensified treatment most relevant to soldiers is nonresidential treatment, evening or night hospital, day hospital, and the full-time psychiatric ward. Large-scale comparisons of psychiatric day hospitals have been available for some time. Farndale (1961) studied 65 British day hospitals and in 1963 Conwell studied 114 day hospitals in the United States (Zwerling, 1966). Some of the program components identified in these two studies are presented in Table 6. It needs to be noted that within the partial hospitalization concept, a psychiatric day hospital can designate either a program structure (separate from an inpatient ward) or a patient status if day hospital patients come into an inpatient psychiatric service/ward to join the program there (Glasscote, Kraft, Glassman, and Jepson, 1969).

EFFECTIVENESS OF PSYCHIATRIC DAY HOSPITALS

As of 1966 there was a sparsity of research on the effectiveness of day hospitals to the point that Zwerling (1966) concluded the following:

"No reliable data have been reported that demonstrate either the advantage or the disadvantage of the day hospital as a treatment modality for any category of patient population, defined by diagnosis, symptoms, age, sex, chronicity, or any other parameter" (Zwerling, 1966, p. 564)....

"There are no reliable data demonstrating either the advantage or disadvantage of psychiatric day hospitals in comparison with traditional twenty-four hour ward units in the care of the mentally ill patients" (Zwerling, 1966, p. 569).

However, about 20 years later, reviewers concluded that the effects of greater improvements due to psychiatric day hospitals had been scientifically established. Some of their key findings are summarized below.

1. "Outcome studies have demonstrated that the average length of stay and the likelihood of subsequent readmission have been significantly greater for inpatients than patients treated in partial hospital programs" (Katz, 1985, p. 1584).

2. "Day patients exhibited better adjustments in the social, vocational, and leisure-time areas and manifested reduced symptomatology. The benefits were most marked after 24 months. It should be noted however, that patients who were grossly disorganized, markedly confused, impulsive, violent, suicidal, homicidal, chronically addicted, or without adequate family supports in the community, presented significant management problems and were usually excluded. Individuals with organic brain syndromes and significant physical disabilities have also not fared as well as other populations treated in partial hospital programs" (Katz, 1985, p. 1584).

3. "The number of patients who can be well served was limited by the availability of inpatient or intensive care backup for patients who require periods of 24-hour-a-day care during their partial hospital stay" (Katz, 1985, p. 1584).

4. "The weight of the evidence at present indicates that partial hospitalization is an effective therapeutic modality and a cost-effective alternative to inpatient treatment for approximately two-thirds of those patients with major psychiatric disorders who previously required inpatient hospitalization" (Katz, 1985, p. 1584).

5. From Hertz (1980, p. 2373) we also know that: "The results of controlled research studies indicate that, generally, inpatient hospitalization should be used for acutely disturbed patients who

need a 24-hour protective environment.... Usually with proper therapeutic management, most acutely ill patients recover sufficiently to leave the hospital within three weeks. For patients who need a structured therapeutic environment, who are able to cooperate in their own treatment program, and who have some community supports, day hospitalization is preferable to inpatient care. Not only is day hospitalization less expensive, but it is also less regressive, since day patients have better social and vocational role functioning. If a short-term hospitalization model is used, about 50 per cent of the patients may benefit from transitional day care."

6. "Partial hospitalization programs are acceptable alternatives to full-time inpatient hospitalization" (Dibella, et. al., 1982, p. 32).

One of the well-designed "definitive" studies on psychiatric day hospitals was done by Hertz, Endicott, Spitzer, and Mesnikoff (1971). They randomly assigned 90 patients who could be treated in both day hospital and inpatient statuses. In comparing the two groups of 45 patients, the day hospital patients manifested better improvement after four weeks in treatment, were stabilized at home much sooner (48.5 days versus 138.8 days), had significantly fewer hospital readmissions at three-month and nine-month follow-ups, and at the two year follow-up were slightly more improved.

This review of the psychiatric day hospital literature indicates that this type of program might be extremely beneficial, efficient, and cost-effective method of expediting psychiatric care for soldiers. This may be especially relevant to acutely impaired soldiers in the Army who are relatively younger, more physically healthy, and have better premorbid adjustment than the chronic type of psychiatric cases. In addition to the "social imbeddedness" of the soldiers in the Army structure, the Army's intent to "take care of its own" would foster studying the effects of psychiatric day hospitals on military clients to determine if the previously-cited improvements in care can also be obtained. The consideration of the mission needs of the Army (to conserve the fighting strength and return soldiers to full duty as soon as possible) was also the basis for applying the revised hard-learned lessons of combat psychiatry to the psychiatric day hospital structure.

DESCRIPTION OF THE FORT HOOD PSYCHIATRIC DAY HOSPITAL

In classifying partial hospital programs, DiBella, et. al., (1982, pp. 142-143) described three types of psychiatric day hospital programs with regard to 7 factors. The Fort Hood Psychiatric Day Hospital can be classified as a "crisis-support treatment" program as opposed to a growth treatment or maintenance-support treatment. A comparison of the typical crisis-support treatment with the current program is presented in Table 7. A psychiatric day hospital was started on June 1, 1986 and routinely provides a broad range of psychiatric clinical services to 15-20 residents who return home to their units at night. Unlike most day hospitals that exclude suicidal and/or homicidal clients, (Glasscote, et. al., 1969, p. 25; Fottrell, 1973),

these two types of clients were readily considered for admission. The six types of admission criteria used to select clients for the day hospital are described in Table 7.

DESCRIPTION OF TREATMENT PROGRAM

The milieu therapy is based on a group-oriented program that involves 6 types of treatment groups on a daily basis: group therapy, community meeting, life skills (assertive training, etc.), occupational therapy, task-oriented groups, and leisure/educational sessions. Clients are actively encouraged to confront and support other clients in varying stages of treatment. The day hospital clients freely interact with the psychiatric residential clients. However, there is a leadership structure among the inpatients that includes a President, Vice President, and Secretary, who represent the clients on administrative issues.

A system of 5 categories of levels of responsibility is provided for the optimal management of clients but also to give them clear feedback about their clinical status. So, the impact of the category system in terms of the management of day hospital clients is that it becomes a critical indicator of the levels of support and accountability requested from the unit. Another example would be when a day hospital client is discharged from a category 2 or 3 status, it is highly likely he would be recommended for "CQ watch" at his unit. The reason for a category 2 placement but discharge to the day hospital is to avoid there being an adjustment into a "patient" role and to facilitate return to the unit as soon as possible. It is easy for the psychiatric ward to become a sanctuary in which the soldier is insulated from taking responsibility for his actions and enduring the natural consequences of irresponsible actions.

The Psychiatric Nursing Unit is designated as an Intensive Care/Assessment Evaluation Unit providing the second type of combat stress control functions or missions (Academy of Health Sciences, 1986, p.1). This draft policy states the following:

"The objective of the U.S. Army Health Service Support System's Combat Stress Control (CSC) and Mental Health organization is to conserve fighting strength by prevention, treatment, and maximal rapid return to duty (RTD) of battle fatigue and neuropsychiatric casualties."

The five types of functions or missions cited in this draft policy consist of consultation, reconstitution, restoration, reconditioning, and stabilization.

When determined by the initial assessing agency (CMHS) that clients need more intensive intervention than can be provided on a nonresidential basis, clients are referred to the residential ("in-patient") Psychiatric Nursing Unit. The range of clients admitted is broad and includes acutely

psychotic individuals, severe suicidal/homicidal clients, behavioral disorders, moderately to severely depressed clients, and any type of substance abusers (ETOH/drug users/dependency). Immediately upon admission, clients enter into a system of administrative classification, not to be equated with diagnostic labeling. Behavioral presentation alone determines placement into one of five categories of responsibility (Table 8). Administrative classification by the nursing staff and diagnostic evaluation by the professionals are the primary focus within the initial 1 to 36 hours of inpatient status. Individually-oriented interventions are initiated to include collateral checks, emotional support, and confrontive modalities. When determination of the provisional diagnosis is made (not limited in time frame), clients become more involved in the therapeutic milieu at a self-paced rate. The therapeutic milieu or community consists of all clients, professional staff, and para-professional staff with unique therapeutic roles being defined by the community. For example, the head nurse more actively confronts clients who are resisting facing their problems and changing and sets the normative standards for behavior. Categorization provides a clear definition of residential status. Categories I and II establish "critical-care clients" while Categories III and IV define the level of responsibility of behavioral expectations. Individuals who rapidly transition into the day hospital do so with a varying degree of unit support. Often clients will return to their parent unit with a request for escorts to or from the day hospital or close observation ("C.Q. watch") of varying length. Each individual is re-evaluated through care planning conferences held regularly for assessing continuing needs. All military units are encouraged to re-integrate clients back into the unit activities during non-duty hours, i.e., placing on duty roster, involve in unit social activities, participate in unit cleaning (G.I. parties), etc. A comparison of the traditional model of psychiatric services versus the more comprehensive treatment model used at Fort Hood is diagrammed in Figure 1.

Therapeutically, standards for milieu behavior are immediately established. Therapeutic interventions are eclectic in nature. However, it can not be overemphasized that one basis for all therapeutic relationships is a varying degree of emotional support and confrontation in order to triage cases and produce changes in the quickest time possible. Timely triage and optimal treatment are two prime goals.

All service members are informed that dispositional decisions will be made according to the following factors:

1. military history and current military performance
2. psychiatric diagnosis
3. response to and progress in treatment
(nonresidential and residential)
4. probability of future productivity and further
personal problems in the Army.

Dispositions include re-admission to the full-time psychiatric ward, return to duty, administrative discharges, medical disability discharges (involving transfer to a medical hold status), transfer to nonresidential treatment programs in the military and/or civilian settings, and complete termination from treatment. The complex interactions among all of the components of the military psychiatric treatment program at Fort Hood are diagrammed in Figure 2.

The inpatient/day hospital professional (psychiatric) staff is responsible for the overall quality in delivery of care. Each primary counselor on the nursing staff is responsible for defining needs of the identified patient as well as significant others to include extended family, unit personnel, etc. Counselors actively involve family members when appropriate, to include marital sessions, interviews of individual family members, etc.

Extensive command consultations are maintained by the entire staff with the commander, 1SGT, platoon leader, etc. The benefits of the unit/staff interaction not only provide for the most effective delivery of service, but it also is a means of providing informal education which will create an atmosphere of early detection of other psychiatric problems. While a client remains assigned to the Psychiatric Service, the staff is solely responsible for referrals to other services, utilizing all available military and civilian medical and social action resources.

SUMMARY

The Psychiatric Day Hospital at Darnall Army Community Hospital in Fort Hood, Texas is noteworthy due to the following factors:

1) it is the only day hospital operational in the Army today for active duty soldiers,

2) it is the only day hospital in the Army that applies principles of combat psychiatry to military psychiatric soldiers to facilitate their timely discharge from the Army or optimal treatment and integration within their units,

3) the traditional concepts of combat psychiatry were clarified and revised so that they could be optimally applied to the psychiatric day hospital,

4) its residents are integrated into the clinical program provided to the full hospitalization residents,

5) various intensities of treatment are provided based on individual treatment plans, with emphasis placed on the interaction of various levels of empathy and confrontation, and

6) military units can utilize the residents on nights and weekends for unit duties such as guard duty, field duty, etc.; thus, less manpower hours are lost during the residential psychiatric treatment period.

FOOTNOTES

1. The views expressed in this article are those of the authors and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the United States Government.

2. The authors want to express their thanks for the efforts of a multidisciplinary team of nursing personnel, medical personnel, and administrative personnel for working as a team in operating the psychiatric ward and day hospital. The typist, Ms. Linda Bottoms, is thanked for her efficiency in completing numerous drafts of this paper. The authors also thank Dr. Vincent Nerviano for his editorial contributions in reviewing the paper.

3. Fort Hood is one of the largest military installations in the world covering 217,000 acres (27 miles long north to south and 25 miles wide east to west). It serves as III Corps headquarters and the home for the 1st Cavalry Division, 2nd Armored Division, 6th Cavalry (Air Combat) Brigade, 3rd Signal Brigade, and about one division of support personnel. The Fort Hood Medical Activity provides medical services to 190,227 eligible personnel that includes 37,884 soldiers, 49,587 family members, 93,117 retirees and their family members in the 175 county support area, and 9,639 civilians.

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TABLE 1

APPLICATION OF THE REVISED PRINCIPLES OF COMBAT PSYCHIATRY TO THE PSYCHIATRIC DAY HOSPITAL AT FORT HOOD

PRINCIPLES OF COMBAT PSYCHIATRY	ORGANIZATIONAL IMPLICATIONS	TREATMENT IMPLICATIONS	PSYCHIATRIC DAY HOSPITAL IMPLICATIONS
Thomas W. Salmon's 3 Principles (1919, 1928) from W.W. I:			
1. IMMEDIACY (start treatment as soon as possible after identification)	Term used was "decentralization" (Glass, 1955). Mental health personnel provide services as close to the soldier's unit as possible. "Immediate, far forward treatment by combat stress control company" (Stokes, 1986).	Forward treatment in Israeli IDF described (Belensky, Tynner, & Sodetz, 1983). A principle of Combat Psychotherapy (Glass, 1954)	Start non-residential treatment immediately at CMHS and triage cases directly to day hospital if possible.
2. PROXIMITY (Treatment provided as close as possible to frontline of battle or work site)	Treatment of battle fatigue occurs as near the unit of origin as practicable (Headquarters, Dept of the Army, 1984). "reconstitution mission" of treating soldier near unit and no evacuating as a "psychiatric casualty" or "restoration mission" or treating soldier in special facility close to the action (Stokes, 1986)	Treat patients on a duty status to prevent hospitalization (Baher, 1975)	Priority of locations of treatment: non-residential (outpatient), evening hospital, day hospital, psychiatric ward full-time.
3. EXPECTANCY (expectation that recovered soldiers will return to duty)	Expect to restore soldiers identity as a "normal soldier, not sick patient or moral weakening". (Stoke, 1986) Term proposed by Harris, Mayer, and Becker (1955) according to Glass (1955)	Seen as an overall necessary condition to establish a therapeutic climate (Sohlberg, 1976) It is expected that "most" psychiatric combat casualties require only a brief respite. (Ursano & Holloway (1985).	Client seen as capable of returning each night and weekends to home, barracks, or unit during treatment.

TABLE 1 (Continued)

PRINCIPLES OF COMBAT PSYCHIATRY	ORGANIZATIONAL IMPLICATIONS	TREATMENT IMPLICATIONS	PSYCHIATRIC DAY HOSPITAL IMPLICATIONS
4. CENTRALITY (central control of the triage process) at the division level of mental health intervention)	Central control of the triage process is at the division level of mental health intervention: Control over routes of evacuation, triage, and planning for high-risk situations. (Ursano & Holloway, 1985)		Division mental health professionals also coordinate selected problematic cases with the division surgeon.
5. SIMPLICITY (simple, brief crisis intervention is provided)	The complexity of psychiatric care increases from the area of immediate combat to the rear areas (Ursano & Holloway, 1985).	A principle of combat psychotherapy (Glass, 1954) "repression and suppression techniques are more effective than uncovering techniques". (Glass, 1954, p. 731) Complicated diagnostic and treatment procedures are avoided. (Ursano & Holloway, 1985).	Short-term treatment can be intensive using milieu and clinical techniques such as confrontation.
6. RESPITE (resting)		Physical replenishment (Belensky, et. al., 1985). "providing a respite means providing a place to sleep, food, and an understanding, sympathetic ear" (Ursano & Holloway, 1985).	Individual counseling is provided as necessary in a milieu setting.

TABLE 1 (Continued)

PRINCIPLES OF COMBAT PSYCHIATRY	ORGANIZATIONAL IMPLICATIONS	TREATMENT IMPLICATIONS	PSYCHIATRIC DAY HOSPITAL IMPLICATIONS
7. MILLIEU THERAPY		A principle of combat psychotherapy (Glass, 1954).	Short-term treatment can be intensive using milieu and clinical techniques such as confrontation.
8. CLINICIAN'S IDENTIFICATION WITH COMBAT GROUP		a principle of combat psychotherapy (Glass, 1954)	
9. GROUP COHESION (unit morale, and esprit-de-corps)	"the frequency of psychiatric casualties was often seen as more related to the characteristics of the group than the character traits of the individual soldier" (Ingraham & Manning, 1979).	Treatment enables the casualty to obtain concurrence of the group and commitment to the group (Bushard, 1957; Hausman & Riach, 1967).	<p>a. Optimal use of group therapy modality.</p> <p>b. Meet with the unit chain of command as necessary in treating clients. Four types of command consultations are used.</p> <p>c. Call unit personnel (readily).</p> <p>d. Actively use "CQ watch" for "acting out" cases.</p>
10. STRONG EGO-INVOLVEMENT IN THE WAR (highly committed to fighting)	Commitment to his country and unit needs to be carefully assessed. (Solberg, 1976)	Treatment may need to focus on other than intrapsychic problems per se.	<p>a. carefully evaluate client's commitment to stay in the Army as an effective soldier.</p> <p>b. confront him intensely about his willingness to become more responsible, as a soldier and person.</p>

TABLE 1 (Cont Inued)

PRINCIPLES OF COMBAT PSYCHIATRY	ORGANIZATIONAL IMPLICATIONS	TRE-TMENT IMPLICATIONS	PSYCHIATRIC DAY HOSPITAL IMPLICATIONS
11. CONFRONTATION	Mental health personnel need to be trained in "non-voluntary" models of counseling for resisting clients, such as using confrontation.		Short-term treatment may include confrontation and often needs.
12. CATHARSIS (Verbal and Emotional)		<p>a. Opportunity to ventilate (Bourne, 1970).</p> <p>b. Talking about frightening experiences was helpful (Daniels, 1975)</p> <p>c. Describe objective events (Belensky, et. al. 1983).</p>	

TABLE 2

THE TARGETED SYMPTOMS REVELANT TO THE PRINCIPLES OF COMBAT PSYCHIATRY

5 FUNDAMENTAL ASPECTS OF
SOLDIER'S PERSONALITYTRADITIONAL PRINCIPLES OF
COMBAT PSYCHIATRYFORT HOOD'S VIEW OF THE
PRINCIPLES OF PSYCHIATRY1. COGNITIVE RESPONSE SYSTEM
(intellectual aspects)expectancy (Sohlberg, 1976;
Ursano & Holloway, 1985)confrontation (on a short-term
basis)2. EMOTIONAL RESPONSE SYSTEM
(emotions and feelings)simplicity (Glass, 1954;
Ursano & Holloway, 1985)(individual and group
counseling)limited catharsis on a short-term
basis (Myth: short-term treatment
does not need to be low intensity
treatment)3. BEHAVIORAL RESPONSE SYSTEM
(actions and lifestyle)milieu therapy (Glass, 1954)confrontation is now provided
but watch for:

- a. administer with caring feelings
- b. levels of intensity are varied
- c. evaluate immediate response
from client
- d. evaluate short-term outcome

4. PHYSICAL RESPONSE SYSTEM
(bodily needs)respite (Ursano & Holloway,
1985)(NOTE: It is critical to minimize
the effects of 5 stages of sleep
deprivation)

5. SPIRITUAL RESPONSE SYSTEM*

strong ego-involvement
(Sohlberg, 1976)

* Five dimensions of personality variables are specified in DSM-III (p. 36); however, the fifth dimension is developmental in DSM-III whereas it is spiritual here. Developmental changes occur within all of the above five dimensions and thus is not seen as a response system per se.

Table 3
TYPES OF COMBAT STRESSES

STOUFFER'S 12 MAIN COMBAT STRESSES IN WW II

"The main types of stress in combat are reasonably clear. Not necessarily in order of their importance, they are:

1. Threats to life and limb and health.
2. Physical discomfort—from lack of shelter, excessive heat or cold, excessive moisture or dryness, inadequacy of food, or water or clothing; from insects and diseases; from filth, from injuries or wounds; from long-continued fatigue and lack of sleep.
3. Deprivation of sexual and concomitant social satisfactions.
4. Isolation from accustomed sources of affectional assurance.
5. Loss of comrades, and sight and sound of wounded and dying men.
6. Restriction of personal movement—ranging from the restrictions of military law to the immobility of the soldier pinned down under enemy fire.
7. Continual uncertainty and lack of adequate cognitive orientation.
8. Conflicts of values
 - a. between the requirements of duty and the individual's impulses toward safety and comfort
 - b. between military duty and obligations to family and dependents at home, to whose well-being the soldier's survival is important
 - c. between informal group codes, as of loyalty to comrades, and the formal requirements of the military situation which may sometimes not permit mutual aid
 - d. between previously accepted moral codes and combat imperatives.
9. Being treated as a means rather than an end in oneself; seemingly arbitrary and impersonal demands of coercive authority; sense of not counting as an individual.
10. Lack of "privacy"; the incessant demands and petty irritations of close living within the group.
11. Long periods of enforced boredom, mingled with anxiety, between actions.
12. Lack of terminal individual goals; poverty and uncertainty of individual regards".

TABLE 4

DEVELOPMENT OF PSYCHIATRIC DAY HOSPITALS

<u>PROPONENT/RESEARCHERS</u>	<u>YEARS</u>	<u>NAME OF FACILITY</u>	<u>LOCATION</u>
Dzhagorov	1933	article: (Katz, 1985) <u>Nevropathol. Psikhiatr.</u> 1937, Vol.6,p.137	Moscow, Russia
	1937	(Herz, 1975)	
	1937	(Herz, 1980)	
-----	1935	Adams House	Boston, Mass.
-----	1935	Lady Chicester Hospital	Hove, England
D.E. Cameron	1947	Allen Memorial Institute (first formal day hospital program in 1946 in western world)	Montreal, Canada
Bierer	1951	introduced day hospital in 1948	England
-----	1948	Yale University (first partial hospital program)	United States
-----	1949	Menninger Clinic	Topeka, Kansas
-----	1952	Massachusetts Mental Health Center	Massachusetts
-----	1963	first NIMH national survey: 141 programs (2,909 day patients)	
Ramot & Jaffe	1964	first Israeli psychiatric day hospital (co-located in psychiatric ward)	
Fried & Brull	1968	second Israeli psychiatric day hospital (in outpatient clinic)	
-----	1968	second survey (185 programs)	
-----	1972	third survey (989 programs)	
-----	1975	fourth survey (1,458 programs) n=229,566 patients	
-----	1980	fifth survey (1,450 programs) n=250,000 patients	

TABLE 5

CONTINUUM OF TYPES OF PSYCHIATRIC TREATMENT PROGRAMS IN TERMS OF STRUCTURAL DIFFERENCES *

FULL-TIME HOSPITALIZATION ON PSYCHIATRIC WARD OR MENTAL INSTITUTION	FULL RETURN TO COMMUNITY/WORK LIFESTYLE
night hospitals	ex-patient clubs
"day care" for custodial units	sheltered workshops
day hospitals	"work camp houses"
Five types of psychiatric day hospitals (Farndale, 1961, p. 181-182):	
Type 1- Independent and detached day hospitals without inpatient beds but containing an outpatient department and not linked to a parent hospital	
Type 2- Detached day hospitals without inpatient beds but linked to a parent mental or general hospital	
Type 3- Detached inpatient, day patient and outpatient outpatient psychiatric units linked to a parent mental, general or teaching hospital	
Type 4- Day hospitals with separate accommodation within the grounds of a parent mental, teaching or general hospital, i.e., accom- modation amounting to a day ward or day department	
Type 5- Day hospital facilities where the day patients patients attend the inpatient wards	
family home-care programs	

* Note: For specific types of psychiatric clients, the classification of treatment programs can be more specific. For example, four types of classification systems were not used to describe drug abuse treatment programs (Mac Donough, 1978, p.579).

TABLE 6

COMPARISON OF TREATMENT PROGRAMS BETWEEN 180 PSYCHIATRIC DAY HOSPITALS

Researcher:	Farndale, 1961	Conwell, 1963 (the first national survey of day hospitals)	Tom S. Mac Donough, 'Speckel & Norwood', 1986
Focus of study:	65 British Day Hospitals	114 Day Hospitals	Fort Hood Psychiatric Hospital
Components of Treatment Programs:	Over one-half had these basic treatment modalities:		
The majority of psychiatric day hospitals provided for (p.16):	1. individual psychotherapy	1. individual psychotherapy	1. individual psychotherapy is provided by mental health professional (clinical psychologist or psychiatrist): individual counseling is provided by a case manager.
	2. group psychotherapy	2. group therapy	2. group therapy is provided three times per week by a senior psychiatric nurse.
	3. occupational therapy	3. vocational counseling	3. vocational counseling, occupational therapy and recreational therapy is provided by a separate OT department.
	4. "social therapy" (in the form of games, entertain- ments, and talks)	4. occupational therapy	4. see above
	5. physical treatments (including E.C.T. and drugs or prescriptions for drugs)	5. recreational therapy	5. see above
Many programs used:	6. therapeutic community technique ("whereby patients are organized in groups or committees with elected chairmen and take respon- sibility for planning some of the routine and activities of the day hospital").	6. family therapy	6. family therapy is occasionally provided, but de-emphasized
	7. center treatment around the O.T. Department or a sheltered workshop, or employment on work projects in and around the hospital.	7. educational therapy	7. educational therapy is provided outside the program by the Army's active program in this area: some PMOS reclassification is recommended to commanders.

Some programs:

- center treatment around the O.T. Department or a sheltered workshop, or employment on work projects in and around the hospital.

TABLE 7

COMPARISON OF THE TYPICAL CRISIS - SUPPORT TREATMENT DAY HOSPITAL
AND THE FORT HOOD PSYCHIATRIC DAY HOSPITAL

SEVEN FEATURES OF DAY HOSPITALS	FORT HOOD PSYCHIATRIC DAY HOSPITAL	CRISIS-SUPPORT TREATMENT
I. PATIENT CHARACTERISTICS	<p>a. Clients undergoing severe crises to include any degree of suicidal or homicidal risk to include severe risk states. High risk clients are thoroughly evaluated before being placed into the day hospital.</p> <p>b. Their acute psychiatric states may or may not have interfered with their military performance.</p> <p>c. All clients were first admitted into the full-time psychiatric program and then selected clients who met the (necessary) criteria for admission were transferred into the day hospital.</p> <p>d. Criteria for admission into the day hospital are:</p>	<p>Patients undergoing severe crisis, with acute states of much lower functioning than usual; they are headed toward hospitalization or are still unstable after hospitalization.</p>
	<p>1) needs intensified diagnostic evaluation and/or treatment beyond what is available on a non-residential basis (necessary),</p> <p>2) there is a need to maintain the constant contact with his/her unit to perform duties, be accountable in formations, or even be mandatorily monitored if necessary on a "CQ watch" (necessary),</p> <p>3) he is potentially a productive soldier or a diagnostic assessment is needed to determine his future productivity (necessary),</p> <p>4) Motivated for treatment or potential to be motivated for treatment (desirable),</p> <p>5) ability to develop insight/awareness into the causes of his/her problems and how he/she will change (desirable), and</p> <p>6) ego-integration enough to respond to daily treatment (desirable).</p>	

TABLE 7 (Continued)

SEVEN FEATURES OF DAY HOSPITALS

FORT HOOD PSYCHIATRIC DAY HOSPITAL

CRISIS-SUPPORT TREATMENT

2. NUMBER OF CLIENTS ATTENDING ANY ONE TIME:

Typically there are 10-15 day hospital clients; typically 14-20 full-time psychiatric residents. Both groups attend same treatment modalities at same ward location in a major hospital.

10-15

3. OBJECTIVES:

- Intensified diagnostic evaluations of selected clients.
- Same as crisis-support treatment model.

Rapid reduction of florid symptoms, improvement of conditions leading to imminent hospitalization, and maximization of growth opportunities in the crisis.

4. AMOUNT OF ATTENDANCE:

- Length of stay:
- Days per week:
- Hours per day:

- Two weeks in day hospital and selected clients attend three weeks.
- Five days per week with selected evening and weekend support.
- 8½ hours per day Monday - Friday; individually-determined evenings and weekends.

a. 3-10 weeks

b. 5-7 days per week

c. 5-15 (usually 6-7)

5. STAFFING:

- Staff versus client ratio:
- Type of staff:

a. 1:4 (9 day staff and 3-5 evening staff)

b. At all times, a nurse (B.S.N.), psychiatric technicians, & LVN are present.

a. 1:1 to 1:4 (mean number of full-time attendees)

b. Physician or nurse coverage at all times; social worker highly desirable.

6. LOCATION:

Co-located on the psychiatric ward in the major Army hospital.

Very rapid and easy access to an inpatient service.

TABLE 7 (Continued)

SEVEN FEATURES OF DAY HOSPITALS	FORT HOOD PSYCHIATRIC DAY HOSPITAL	CRISIS-SUPPORT TREATMENT
7. OTHER FEATURES:		
a. Special facilities and supplies:	All features of an inpatient psychiatric unit to include immediate medical attention available.	Medications (oral and injectable) needed on the premises; one "quiet room" with cot/mattress; restraints available.
b. Treatment activities:	Standard main treatment modalities used in military psychiatric wards as described in text and Table A, plus emphasis on the interaction of varying levels of support and confrontation.	Individual sessions needed. 24-hour emergency coverage required. Patients often walk out or do not show up; outreach and home visits needed. Program overall: high on support, structure, and especially containment.

TABLE 8: ARTICLE IV-CATEGORY SYSTEM

The category system is a means of recognizing the degree of responsibility an individual is assuming for their actions, and their responsibility within the community. Category change is limited to one step at a time. Individuals must be a member of the community for at least 72 hours before an increase will be considered above Category I. A minimum of one week is required at each category level.

1. Category I (one to one-observation):

- a. For the acutely ill individuals (self destructive, poor impulse control, poor control of their emotions, or a strong desire to leave the hospital).
- b. For patients requiring constant eye contact: LINE OF SIGHT or WITHIN ARMS REACH 24 hours a day, of an assigned staff member.
- c. Category I patients will not be allowed to leave the unit except per physician order.
- d. Category I patient will not receive category changes through the community. (Only a physician's order can change the category.)

2. Category II:

- a. Category II patients may not leave the unit unless accompanied by a staff member. Patients may be restricted to the unit by physician's order or at discretion of staff.
- b. Category II patients will be observed no less than every 15 minutes.

3. Category III:

- a. Category III is for those individuals who are showing steady progress with his/her problems.
- b. Category III patients may be escorted off the unit by a Category V (five) patient or following coordination with the charge nurse, may be escorted by a responsible Category IV patient. Category III patients may be escorted to any area within the hospital complex if it does not interfere with scheduled activities or treatment.
- c. Category III patients will have a half day work therapy. The responsibility of attending community meetings, group therapy and other scheduled appointments will be maintained.

4. Category IV:

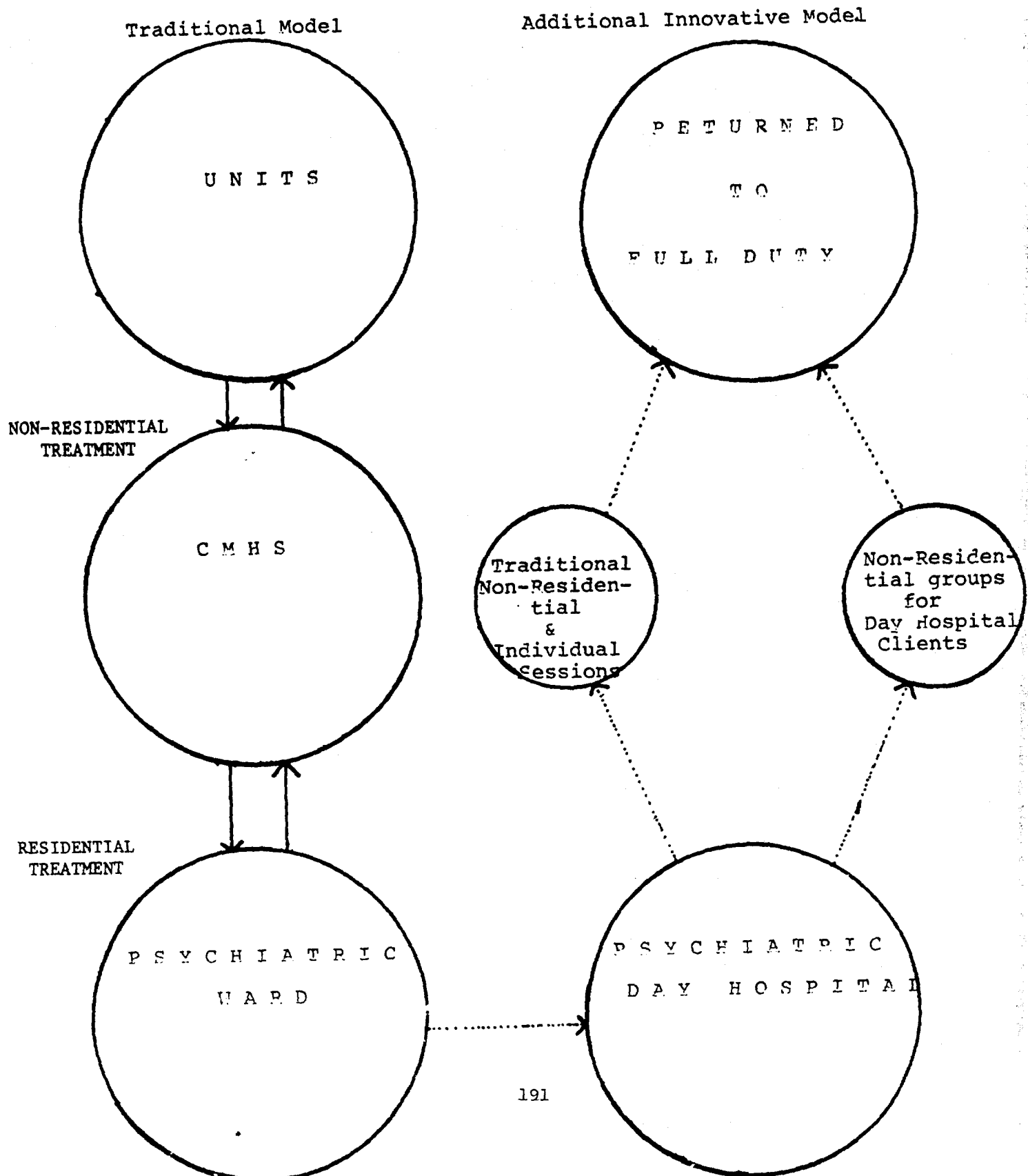
- a. Category IV (four) patients do not require an escort and have access to all areas within the hospital complex. (May attend all activities, appointments, dining facility, laboratory, x-ray, and hospital snackbar/PX alone.)
- b. Category IV patients will obtain work therapy jobs from O.T. staff, work therapy will be from a scheduled time in the morning and afternoon until 1600. The responsibility of attending community meetings, group therapy, occupational therapy and other scheduled appointments will be maintained.
- c. Category IV patients will be eligible for weekend day passes.

5. Category V:

- a. Category V (five) patients are those patients who have demonstrated a high level of responsibility, with a positive approach toward working on their problems and have fully participated in the treatment program.
- b. Category V patients will be assigned a work therapy job on a full day basis. These patients must continue to participate fully in all treatments and activities, to include attending community meetings, group therapy and other scheduled activities.
- c. Category V patients are eligible for over-night passes. They may leave the unit during free time after signing out in the sign-out book.
- d. Category V patients do have the responsibility of escorting Category III patients.
- e. Category V patients have access to all facilities on Post and may not leave Post unless specifically authorized.

Figure 1

Psychiatric Treatment Model at Fort Hood



COMPLEX INTERACTIONS AMONG COMPONENTS
OF
PSYCHIATRIC MODEL AT FORT HOOD



AD-P005 581

PROVIDING FRONT-LINE PSYCHOLOGICAL SUPPORT SERVICES
IN A
MILITARY TRAINING ENVIRONMENT:
IMPLEMENTATION AND RESULTS

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ABSTRACT:

→ The current posture of our military forces provides limited opportunities for the mental health professional to practice the important skills needed in times of mobilization. The majority of "trial-runs" that test the skills of our combat troops and their support personnel occur during mock exercises or intensive training. One such environment occurs annually at The United States Military Academy during new cadet orientation or as it is better known, "Beast Barracks". The intensity and duration of this period have many of the same effects on participants as those found in other rigorous military training settings and even some combat situations.

This paper outlines the steps taken to provide the new cadet with psychological support and the chain of command with immediate feedback on individuals and issues. A network of trained "Peer Counselors", who provide unit level support, has become the cornerstone of this counseling and stress inoculation effort and their role is reviewed.

Statistics regarding the use of mental health resources and the incidence of psychological problems are presented as a source of comparison to historical data. Differences in these statistics are discussed in light of this unique training environment. ←

INTRODUCTION

Minimizing the impact of stress on personnel attrition in military training environments is a topic that attracts only sporadic interest in the literature. Predictive measures of the potential for inductees to complete training have been based on a variety of variables and some have met with reasonable success (McCarroll, et. al.; 1981). The implementation of counseling

strategies based upon predictive data drawn from basic trainees has demonstrated the applicability of preventative and immediate intervention (Georgoulakis, et. al.; 1981). These studies serve to reinforce the speculations of authors who, over thirty years ago, suggested the wisdom of utilizing mental health professionals in military training settings (Chapman, 1952; Weiss, 1956).

In many ways, current thinking regarding the use of mental health resources in the training environment mirrors the lull in the development of combat psychiatry principles that occurred between World War I and World War II (Mareth & Brooker, 1985). This void resulted in the equivalent of "reinventing the wheel" when it came to treating stress related casualties at the beginning of WW II. The hard-learned principles of Immediacy, Expectancy, and Proximity taught in WW I had essentially been forgotten. These lessons were also initially lost to those who engaged in conflicts in the Middle East during the past decade. In the case of Israel, this lost knowledge has been quickly rediscovered and expanded as a matter of survival (Belenky, et. al., 1985).

Because of this growing interest in the refinement of the front-line treatment of stress related problems, interventions have been greatly improved (Kentsmith, 1986). Additionally, current psychological formulations regarding the etiology of stress reactions in the military have been expanded (Shaw, 1983) and the development of standardized regulatory guidelines continues (Stokes & Sheehan, 1984 & 1987; AR40-216, 1984).

The efficacy of using battlefield psychiatry principles in a variety of situations is well documented from the early part of this century (Salmon, 1917 & 1929). These tenets have been continuously utilized in more modern conflicts through the Middle East (Solomon & Benbenishty, 1986) to the Falklands (Price, 1984) with the previously noted exceptions. Most recently, they have been modified to encompass international hostage and crisis situations (Sokol, 1987). The following study presents data regarding a recent experience at the United States Military Academy suggesting that principles used to treat stress induced casualties in combat have great applicability to military training situations.

SETTING

The introduction of the new cadet to West Point is accompanied by six weeks of training known as "Beast Barracks". This program is designed to orient the individual cadet to the military service as well as to The Academy environment and college academics. This "basic training" of the new cadet thus combines the stress of at least three significant transitional life-phases into an intensive and rigorous experience.

Demographically, the new cadet in this study was generally the same age as the military basic trainee and the class was composed of +/- 12% women. Their academic and physical qualifications had been carefully screened in order to select those students who were the best qualified to successfully

complete the four year course of military and academic instruction at West Point. (Table I)

In order to assist these new cadets in their transition, a network of peer counselors operated during Beast Barracks within an organization named the Cadet Counseling Unit (CCU). Peer counselors were senior cadets who provided the bulk of the routine and immediate counseling and stress inoculation training for new cadets that took place within the military milieu (Table II). Their selection as counselors was based upon recommendations from their own cadet companies during the previous year. Many of them had emerged during the previous three years at West Point as individuals with innate counseling skills and unique leadership traits.

Formal instruction of the counselors was initiated several months before the start of summer training for the new cadet. Basic counselor training consisted of the content found in Egan (1986) as supplemented by a weeklong intensive workshop and videotaped counseling sessions. Additional instruction was provided by the professional staff of the CCU which included two active duty military clinical psychologists and two active duty masters level counselors. The principles of crisis intervention, stress inoculation, referral, and suicide prevention were part of this additional instruction.

By the completion of this training, participants had the basic skills and abilities of most school trained military mental health technicians. They have the important added experience of having successfully negotiated Beast Barracks and three years of West Point. Three of the counselors selected had prior military service as army enlistees and had graduated from The West Point Preparatory School.

IMPLEMENTATION

Each of the nine newly formed cadet companies, consisting of +/- 150 cadets, was assigned a permanent counselor who would remain with the company throughout the summer training. The counselor was integrated into the staff and training schedule of each company and maintained space in the company area to conduct daily business. They participated in most of the daily unit training and all field exercises.

The CCU headquarters was established within the new cadet battalion area and was physically located in the barracks. The CCU was staffed around the clock by a counselor with a professional staff member on call. In addition to unit duties, the counselors were assigned to screen sick-call at the cadet health clinic and to assist at the physical therapy clinic (reconditioning) on a daily basis. Much informal or "footlocker" counseling was accomplished in this manner and consultations with the Chain-of-Command and Medical Staffs were conducted continuously. This informal counseling is not reflected in the reported statistics at Table II.

Case discussions and staff meetings were conducted daily to provide supervision to the counselors and to review consultation records which were then returned to the unit command chain.

Every formal case was reviewed daily by the professional staff and all unit feedback sheets were countersigned by the counselor and their supervisor. Cases requiring additional evaluation or treatment were referred to the professional staff and a detailed description of all formal psychological evaluations is presented at Table III. Records and reports were fully automated on a computer system that tallied demographic data and detailed company statistics. These basic operating procedures insured that follow-up and supervision of cases occurred at a variety of levels.

OUTCOMES AND DISCUSSION

Several factors must be considered in the discussion of the data collected at Beast Barracks when comparisons are made to other training and combat situations. The typical new cadet can be considered a demographic cohort of the military basic trainee in age and life experience but the analogy is strained beyond those primary considerations. Table I indicates that only one in ten applicants is successful in gaining admission to West Point and that their academic achievements are usually exceptional. The intensive screening of this population reduces the expectation of inherent psychological problems arising to below the 7.75 cases per thousand per year predicted as a base rate among troops by Kentsmith (1986). In fact, in only one of the 14 cases seen for formal psychological evaluation did the new cadet have overt personality characteristics which would have resulted in administrative disqualification (ego-syntonic homosexuality).

The CCU, with its similarities to the Combat Stress Control Squad (Stokes & Sheehan, 1984), and the actual setting in which it operated, represent a concentration of optimal factors comparable to those described by Price (1984) in his discussion of The Falklands Campaign. One might expect that an intensive mental health effort directed at this population would do at least as well as the most successful mental health team of The Israeli Defense Force that "...returned 95 percent of the soldiers with combat reactions to duty within 72 hours..." (Enoch, et. al., 1983).

Actual utilization of mental health resources reported in Table II represents 12 percent of the new cadet population as compared to 18 percent of the population reported by Georgoulakis, et. al. in their 1981 study of army basic trainees who received counseling during a typical training cycle. Counseling conducted with the new cadet was generally of short duration (average 2 sessions) and consisted of brief and simple contact (average 35 minutes).

The Georgoulakis study reported an 84 percent return to duty rate of their counselees as compared to a 92 percent return to duty rate by the CCU. These differences can be partially explained by the previously cited 7.75 cases per thousand rate that might be more of a factor in the 1981 sample. Another reason for differences in the return to duty rate may be that the soldiers seen in basic training reported to the Mental Health Clinic following standard procedures and were thus singled out

from their units. The proximity of the CCU to its clients is emphasized as a contributing factor in its success rate.

A consequence of the location and visibility of the CCU and its counselors is reflected in the sources of cadet referrals reported in Table II. The largest percentage came directly from the chain-of-command and the person most immediately involved with the new cadet, the squad leader. This is the basic level for systemic intervention and a quick professional response to command consultation requests certainly generates credibility for the mental health practitioner on "the front-line".

The merit of having counselors at sick call and other sections of the Medical Treatment Facility (MTF) is suggested by the results of research conducted by Maas nearly thirty years ago (Maas, 1958) and the number of referrals that came from the MTF. Reductions in overall sick call statistics can be one result of this sort of intervention not to mention a concomitant improvement in staff coordination and good will between operating agencies. Peer counselors were considered an integral part of the MTF by summer's end and were given distinctive identification tags by the MTF to facilitate their communication with staff.

Formal psychological evaluations (Table III) represented about nine percent of all cadets seen by the CCU. The types of problems detected in these cadets seem very similar to those reported by Chermol (1983) in combat situations. The time phasing of these stress related problems appears to follow the pattern suggested by Kentsmith (1986) for combat exhaustion in that they all occurred within the first 25 days of training. None of the cases seen at the CCU after 20 days of training received stress related discharges and the one formal evaluation conducted at 30 days of training was returned to duty. The discharge results reported in Table III are also indicative of the counselors skill at managing cases. Their referrals for formal evaluation were consistently appropriate and timely. These discharge results also demonstrate that few individuals who become identified as "patients" ever return to duty, a fact well demonstrated in much of the combat research.

Table IV reports several other statistics that are carefully monitored during Beast Barracks. Large reductions in sick call between 1984 and 1985 can be partially explained by certain considerations in addition to CCU intervention. Military medics conduct sick-call screening in each company area and treat many minor illnesses on the spot. Injuries and illness have also been reduced by using "low-impact" exercises in all cadet physical conditioning programs, by careful evaluation of any dramatic weight loss and by strict sleep discipline. These ideas are in keeping with the basic concepts of rest and replenishment which form the basis of any successful intervention in the combat environment.

Summary statistics presented in Table V can result in much discussion and comparison to historical data. The overall intensity of this training as measured by discharges appears to fall somewhere between the level two and three battle stress described by Noy, et. al. (1982, 1983) in their evaluation of Israeli Defense Force Battalions in the 1982 Lebanese War. The

efficacy of aggressively utilizing combat psychiatry principles in this training setting is comparable to the best results reported in any other training or combat situation (92% RTD).

The likelihood of an individual returning to duty after they have become identified with the sick role is low and this point is again made in Table V. The incidence of women cadets coming to counseling is proportionately higher than what might be predicted by the population as is their chance for discharge. These figures are skewed by the very low numbers of actual discharges (3 women, 9 men) but they do coincide with the findings of McCarroll, et. al. (1981) in their basic trainee study. These authors concluded that "...females scored higher than males on the HOS (Health Opinion Survey), and had a higher relative risk of incurring an illness or injury during training than did males" (p.467).

CONCLUSIONS

The counseling intervention implemented at West Point during new cadet orientation purposefully employs the most recent methodology of treatment designed to treat combat exhaustion or battle fatigue. These principles have great applicability to the military training setting. As Sokol points out, "With some modifications, these principles may be appropriate to the treatment of most victims of acute psychological trauma" (1987, p. 4).

In the Beast Barracks setting, the effectiveness of counselors was directly related to their visibility and willingness to be integrated into their assigned company. In a like fashion, credibility was established with cadre members in proportion to the amount of time spent by the counselors on the ground with the cadets in both garrison and field environments. Where the CCU was seen as available to assist, eager to assume responsibility and flexible in the outreach effort, it flourished. These are lessons that were of great value to the peer counselors and would be to any mental health professional.

There appear to be definite patterns in both the incidence and type of psychological problems that emerge in this setting and the effectiveness of frontline interventions over time. These patterns are strikingly similar to those reported in actual combat situations. The employment of combat psychiatry principles by peer counselors at West Point during summer training has produced a level of treatment efficiency that may be close to optimal (Roland, 1987).

TABLE I

NEW CADET DEMOGRAPHIC PROFILE/CLASS OF 1990

	<u>Male</u>	<u>Female</u>
Applicants	11234	1761
Qualified	2501	321
Admitted	1173	157 (+/- 12%)

Academics/Activities

Top fifth in High School	88%
SAT Mean Score Math	640
SAT Mean Score Verbal	570
National Honor Society	N= 858
Valedictorians	N= 132
Salutatorians	N= 72
Class Presidents	N= 436
Varsity Letter	N=1158
Team Captain	N= 740
Prior Service	N= 175(+/-)

TABLE II

FORMAL RECORDED COUNSELING SESSIONS:

N=239 Sessions/159 New Cadets

	<u>Average</u>	<u>Range</u>
Sessions/Cadet	+/- 2	1-6
Female	28%	
Male	72%	
Session Length	35 Minutes	5-170

Referral Sources

Chain of Command	50% (36% from Cadet Squad Leader)
Self	37%
Medical (ER, OPC)	7%
Other (Chaplain, Buddy)	6%

TABLE III
FORMAL PSYCHOLOGICAL EVALUATIONS:

N=14

<u>Days in Training</u>	<u>Symptoms</u>	<u>Sex</u>	<u>Disposition</u>
3	1,2,5	F	D/C
4	1,2	M	RTD
5	1,5	M	D/C
7	1,3,4	F	D/C
8	1,3,4	M	D/C *
9	3	M	D/C
12	1,5	M	D/C
12	3	F	D/C **
12	1,2,3,4	F	D/C
13	1,2,3	M	D/C
13	1,2,4	M	D/C ***
15	1,2,3	M	D/C
20	1,2,4	M	D/C
30	1,2	F	RTD

=(AWOL, FUGUE STATE) **=(ORTHOPEDIC D/C) *=(PSYCHOGENIC BLEEDING). D/C= Discharged RTD= Return to duty

SYMPTOM DEFINITIONS:

<p>1= EMOTIONAL</p> <p>Mild Anxiety</p> <p>Mild Depression</p> <p>Mild Veg Sx</p>	<p>2= PSYCHOSOMATIC</p> <p>Sleep Disturbed</p> <p>Weight Change</p> <p>Gastro/Respir.</p>
<p>3= ACTING-OUT (PA)</p> <p>Neg Behavior</p> <p>Refuse to train</p> <p>Moderate Anx/Dep</p>	<p>4= ACTING-OUT (A)</p> <p>AWOL</p> <p>Assaultive</p> <p>Suicidal Ideas</p>
<p>5= SUICIDE GESTURE</p>	

Note: Symptoms are cumulative over days in training for each Patient. 2 of 14 were evaluated as no psych diagnosis. All patients had prior session(s) with peer counselors.

TABLE IV

SICK CALL & WEIGHT LOSS 84/85/86:

First 2 training weeks

	<u>84</u>	<u>85</u>	<u>86</u>
Sick Call	932	396	380
Hospitalized	38	25	40*
Weight loss -8 lbs	NR	255(18%)	39(3%)**

*Not Psychiatric

**(Range = 8-21 lbs., Average = 10.3 lbs.)

TABLE V

SUMMARY STATISTICS

Total New Cadets +/- 1350 (88% Male)

CCU Clients	159 (12% all Cadets, 72% Male)
Return To Duty	147 (+/-92% of all Patients)
Formal Evaluations	14
Discharged	12 (75% Male)

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